Castleman File: American Petroleum Institute
w/c = with cover letter or memo If DATE = 0, undated
CD-ROM Document #:API 26 DATE 1957

___ published article from trade journal

___ published advertisements

___ newspaper article

___ published government report

___ government inspection results

___ unpublished or internal report

___ unpublished presentation from conference

___ letter

___ memorandum

___ industry warning labels

___ industry sales literature

___ industry recommended practices

✓ meeting minutes (with attachments) Aug-Dec

___ membership list

___ BC notes

UNIVERSITY OF CINCINNATI
DEPARTMENT OF PREVENTIVE MEDICINE AND INDUSTRIAL HEALTH

THE KETTERING LABORATORY
COLLEGE OF MEDICINE—EDEN AVENUE
CINCINNATI 19, OHIO

CABLE ADDRESS: KETLAB, CINCINNATI
TELEPHONE: CAPITOL 1414

August 15, 1951

Mr. D. V. Stroop, Director
Department of Technical Service
American Petroleum Institute
50 West 50th Street
New York City 20

Dear Mr. Stroop:

For your information I am sending you herewith a statement of expenditures made on behalf of American Petroleum Institute during the second quarter of 1951. I believe that the statement will be self-explanatory, but if you have any questions or comments, Doctor Kehoe would appreciate your bringing them to his attention.

Very truly yours,

E. R. Fortlage

E. R. Fortlage, Secretary to
Dr. Kehoe

ef

Enc.

UNIVERSITY OF CINCINNATI
KETTERING LABORATORY
ACCOUNT OF AMERICAN PETROLEUM INSTITUTE

For the Second Quarter 1951

SALARIES (Based on Proportion of Time Actually Spent on Project)

Robert A. Kehoe	- Supervision	34.62
John Phair		1375.02
Wesley Horton	- Coordination of Experimental Work	1755.00
Russell Tye	- Technical Assistance	1100.00
Ruth Pierle	- " "	1200.00
Frank Cleveland	- Pathological Assistance	219.48
Frank Dutra	- Pathological Assistance	24.02
Dorothy Templeton	- Technical Assistance	568.45
Marion Duvall	- " "	336.11
Ralph Denham	- " "	172.50
Carrie Siveley	- " "	353.25
Karl Krautle	- " "	85.44
Waldo Younker	- " "	12.41
Ed Pelta	- " "	155.91
Raymond Suskind	- " "	23.08
		7415.29

MISCELLANEOUS EXPENSE

Traveling Expense	630.57
Purchase of Animals	474.10
Laboratory Supplies	2170.08
Proportion of Secretarial, Library, Janitors, Wash Boys, Draftsman, Shipping Clerks, Animal Caretakers, Histopathological Preparation etc	7331.86
Proportion of Heat, Gas, Electricity, Steam, Telephone, Postage, Pensions, Annuities, Maintenance, Animal Food and Supplies etc	3141.38
TOTAL	21,163.28

Balance Available for Further Work in 1951 at End of 1st Quarter 1951	$39,470.86
Expenditures - 2nd Quarter 1951	21,163.28
Balance Available for Further Work at End of 2nd Quarter 1951	18,307.58

API 05119

August 17, 1951

Dr. B. B. Reeve, Chairman
Medical Advisory Committee
% Standard Oil Company (Indiana)
910 South Michigan Avenue
Chicago 80, Illinois

Dear Dr. Reeve:

We have been informed by Dr. Kehoe's office that the unexpended balance of API funds at Kettering Laboratory as of June 30, 1951 amounted to $18,307.58.

This balance, plus the $50,000 payment made as of July 1, 1951, gives them a total of $68,307.58 of the $100,000 budget for the 1951-52 fiscal year.

The expenditures for the fiscal year 1950-51 amounted to $81,692.42.

A copy of this letter is being sent to Dr. Newquist for his information.

Very truly yours,

DVS:rd

D. V. Stroop

cc - M. M. Newquist, M.D.

AMERICAN PETROLEUM INSTITUTE
50 WEST 50TH STREET
NEW YORK 20, N. Y.

August 20, 1951

Members and Associates
Subcommittee on Carcinogenicity

Gentlemen:

This subcommittee is now in its seventh year and up to date approximately $218,000 has been expended on the API carcinogenicity project and an additional $100,000 has been earmarked for the year ending June 30, 1952. Dr. Kehoe's staff has done excellent work and the information obtained has been invaluable. However, it is conceivable that unless the program is reviewed in the light of the original objectives and needs of the petroleum industry, it might go on indefinitely at high cost and some of the information developed might not have much practical value to the industry.

Therefore, I will appreciate receiving your recommendations on the specific questions in the attached questionnaire in order that the Subcommittee can collaborate more effectively with Kettering Laboratory as regards samples to be tested, development of an analytical technique and other phases of the project. Comments are also invited from members and associates of the Medical Advisory Committee who are not on this Subcommittee.

For your information, I am attaching tables showing the number of animal tests and samples representing the processes and products selected by the Subcommittee on February 1, 1949 and the potencies of 50 samples or fractions therefrom. These figures are as of April 12, 1951, and undoubtedly, additional tests have been completed since then.

I will appreciate receiving replies of all members and associates of the Medical Advisory Committee not later than September 17, 1951. If the replies are widely divergent, it may be advisable to hold a meeting of the Subcommittee in Cincinnati about the second week in October. In such event, you will receive adequate notice.

As you know, a report on the carcinogenicity project is to be given to the General Committee, Division of Refining, API, by Dr. Kehoe on November 6. It is quite possible that the General Committee will want to know about our future plans for studying and handling this subject so it is doubly important for the Medical Advisory Committee to have some definite recommendations from you.

Very truly yours,

M. N. Newquist, M.D.
Chairman, Subcommittee on Carcinogenicity

MNN:GH
Attach:
cc: Members and Associates, Medical Advisory Comm.
Dr. R. A. Kehoe

API 05121

Table 1 - Number of samples being tested on animals as of April 12, 1951, representing processes and products selected in 1949 for study

	Number of samples	Number of tests*
STRAIGHT THERMAL PROCESSES		
GAS OIL CRACKING		
Charge	3	3
Recycle gas oil	1	1
Fuel oil	2	2
Tar	12	13
VISCOSITY BREAKING		
Cycle gas oil	1	1
Resid	2	2
NAPHTHA REFORMING		
Tar	3	3
COKING		
Charge	1	1
Gas oil	1	1
Heavy gas oil	3	3
Blow down oil	1	1
Wax Tailings	1	1
GAS REVERSION (POLYFORMING)		
Tar	3	3
STEAM CRACKING	0	0
CATALYTIC PROCESSES		
HOUDRY		
Heavy gas oil	6	6
THERMOFOR CATALYTIC CRACKING		
Cycle gas oil	1	1
Recycle gas oil	1	1
Synthetic bottoms	9	9
FLUID CATALYTIC CRACKING		
Gas oil	1	1
Heavy cycle gas oil	2	2
Bottoms (700°+) from heavy cycle gas oil	1	2
Decanted oil	8	33
Slurry	2	2
HOUDRYFLOW	0	0
CYCLOVERSION		
Heavy gas oil	1	1

* Does not include animal tests for cocarcinogenicity, effects of washing, or tests on methylcholanthrene or dimethyl benzanthracene standards.

API 05122

	Number of samples	Number of tests*
HYDROFORMING		
Bottoms	2	2
DESULFURIZATION (marginal case)	0	0
SPECIFIC PRODUCTS		
ROD WAXES	0	0
SLACK WAXES		
Charge to press	1	1
Dewaxed oil	2	2
CERTAIN RAW LUBE STOCKS (UNTREATED)		
Naphthenic distillate	1	1
Gas oil	1	1
Resid	1	1
SOLVENT EXTRACTS		
Furfural	1	1
Phenol	2	2
Duosol	1	1
Nitrobenzene	1	1
Sulfur dioxide	1	1
ACID OILS FROM ACID SLUDGE		
Hydrolyzed acid sludge	1	1
White oil	1	1
PRODUCTS FROM OTHER INDUSTRIES		
COAL TAR	0	0
WATER GAS TAR	0	0
SHALE OIL - DOMESTIC AND BRITISH	0	0
	82	109

* Does not include animal tests for cocarcinogenicity, effects of washing, or tests on methylcholanthrene or dimethyl benzanthracene standards.

Table 2 - Potencies of oils (methylcholanthrene equivalents) as determined by animal tests reported as of April 12, 1951

High potency - above 0.1
Moderate potency - 0.02 - 0.1
Low potency - below 0.02

Potency	Description of Sample	API Sample Number
0.65	FCC Slurry	26
0.63	FCC Decanted oil	12
0.63	FCC Decanted oil W3632	8
0.60	FCC Press oil (85%) from decanted oil W3632	8-3
0.60	FCC Desulfurized press oil from decanted oil W3632	21
0.47	FCC Aromatic fraction (from silica gel) of decanted Oil W3632	8-5
0.33	FCC Dewaxed fraction (MEK-benzol) of a decanted oil	43-1
0.30	FCC Decanted oil	42
0.29	TCC Synthetic bottoms	31
0.24	TCC Gas oil - charge to thermal cracking	29
0.22	Fuel blend from cracking TCC gas oil (Sample 29)	30
0.22	TCC Synthetic bottoms	10
0.20	Coking - Heavy gas oil	33
0.20	Coking - Blow down oil	53
0.20	Thermal - Tar from FCC Heavy gas oil	24
0.16	FCC Heavy gas oil	23
0.16	Houdry - Heavy gas oil	11
0.16	Coking - Gas oil	28
0.16	FCC - Bottoms 700°+ from FCC heavy gas oil	25
0.15	Cycloversion - Heavy gas oil	22
0.15	Phenol extract, San Joaquin naphthenic distillate	27
0.14	Houdry - Heavy gas oil	51
0.14	Thermal - Tar from FCC gas oil	47
0.14	Thermal - Tar from TCC gas oil	61
0.14	Thermal - Tar from Houdry gas oil	35
0.14	Thermal - Tar	64
0.13	FCC - 50% Decanted oil W3632; 50% white oil + W. Texas Resid.	8-4
0.13	Thermal tar	55
0.14 0.12	Thermal tar - feed contained cat. cracked components	20
0.11	Thermal tar - 50% of above, 50% dodecyl benzene	20-1
0.12	Houdry - heavy gas oil	50
0.10	FCC Heavy gas oil	46
0.09	Houdry heavy gas oil	34
0.08	FCC - 50% bottoms 700° from FCC Heavy CGO, 50% white oil + W. Texas Resid.	25-1
0.08	Coking - heavy gas oil	52
0.08	Fuel blend - thermal cracking, feed cont'd cat cracked components	39
0.07	FCC Decanted oil fraction 510°-710°, 1-plate vac.dist.	12-4
0.07	FCC Decanted oil fraction 1010° - 1065°, 1-plate vac. dist.	12-5

Potency	Description of Sample	API Sample Number
0.06	Thermal tar, unflashed thermal resid.	6
0.06	Polyformer tar	37
0.04	Polyformer tar	13
0.04	Naphtha reforming - tar	19
0.03	FCC decanted oil, asphalt from pentane deasphalting	12-1
0.03	FCC decanted oil, resid boiling 1065°, 1-plate vac.dist.	12-6
0.03	TCC synthetic bottoms	9
0.015	FCC decanted oil, 2nd asphalt from pentane deasphalting	12-3
0.01	Phenol extract, Coastal 900X	16
0	Straight run gas oil	1
0	Straight run resid, Wilmington crude	5

QUESTIONNAIRE - SUBCOMMITTEE ON CARCINOGENICITY
August 20, 1951

1. Should animal tests be made on samples selected in 1949 but as yet not tested; specifically those from desulfurization, steam cracking, rod waxes, coal tar, domestic and British shale oil?

2. Should additional samples representing any of the processes and products in the 1949 list be tested on animals? If so, which ones?

3. Should the animal testing program be continued on its present scale for one more year or for two more years, by the selection of additional samples from various processes or should it taper off and be confined to the necessary animal tests in connection with the development of an analytical technique?

4. Should a large-scale animal testing program be initiated on fuel oils to determine their potential hazards, if any, or should evaluation of these fuels await the development of an analytical technique?

5. Should efforts be directed toward development of a technique to eliminate the carcinogenic effect of an oil by removal or conversion of the carcinogens?

6. Should the epidemiological study
   a. be continued for an indefinite period on an industry-wide basis,
   b. be maintained as a current registry of actual cases from petroleum products, or
   c. be limited to studies of a smaller number of refineries and other operations where medical departments exist and reliable medical data can be obtained?

7. Has sufficient information been developed to date in these studies to enable the individual companies to formulate adequate control measures
   a. for their own employees,
   b. for their customers?

8. For how long should the total expenditures be continued at the present rate of $100,000 per year or should they be reduced to an amount sufficient to cover specific objectives only?

9. What other comments or recommendations do you have?

Signed_____ Company_____ Date_____

Please return to Dr. M. N. Newquist, The Texas Company, 135 East 42nd Street, New York 17, N. Y.

THE TEXAS COMPANY
135 EAST 42ND STREET
NEW YORK 17, N.Y.

M. N. NEWQUIST, M. D.
MEDICAL DIRECTOR

August 17, 1951

Mr. D. V. Stroop
American Petroleum Institute
50 West 50th Street
New York, New York

Dear Sir:

I am attaching a letter, questionnaire and 2 tables which should be mimeographed and sent to all members and associates of the Medical Advisory Committee. I will appreciate it if you will arrange to do this as soon as possible. Please send one copy of the letter and tables and two copies of the questionnaire to each person so that they can send one copy to me and keep one for their files.

Very truly yours,

M. N. Newquist, M.D.

MNN:GH
ATTACH.

API 05128

API

THE TEXAS COMPANY
135 EAST 42ND STREET
NEW YORK 17, N.Y.

M.N. NEWQUIST M.D.
MEDICAL DIRECTOR

August 20, 1951

Members and Associates
Subcommittee on Carcinogenicity

Gentlemen:

This subcommittee is now in its seventh year and up to date approximately $218,000 has been expended on the API carcinogenicity project and an additional $100,000 has been earmarked for the year ending June 30, 1952. Dr. Kehoe's staff has done excellent work and the information obtained has been invaluable. However, it is conceivable that unless the program is reviewed in the light of the original objectives and needs of the petroleum industry, it might go on indefinitely at high cost and some of the information developed might not have much practical value to the industry.

Therefore, I will appreciate receiving your recommendations on the specific questions in the attached questionnaire in order that the the Subcommittee can collaborate more effectively with Kettering Laboratory as regards samples to be tested, development of an analytical technique and other phases of the project. Comments are also invited from members and associates of the Medical Advisory Committee who are not on this Subcommittee.

For your information, I am attaching tables showing the number of animal tests and samples representing the processes and products selected by the Subcommittee on February 1, 1949 and the potencies of 50 samples or fractions therefrom. These figures are as of April 12, 1951 and undoubtedly, additional tests have been completed since then.

I will appreciate receiving replies of all members and associates of the Medical Advisory Committee not later than September 17, 1951. If the replies are widely divergent, it may be advisable to hold a meeting of the Subcommittee in Cincinnati about the second week in October. In such event, you will receive adequate notice.

As you know, a report on the carcinogenicity project is to be given to the General Committee, Division of Refining, API, by Dr. Kehoe on November 6. It is quite possible that the General Committee will want to know about our future plans for studying and handling this subject so it is doubly important for the Medical Advisory Committee to have some definite recommendations from you.

Very truly yours,

MNN:GH
Attach:
cc: Members and Associates, Medical Advisory Comm.

M.N. Newquist, M.D.
Chairman, Subcommittee on Carcinogenicity

API 05129

Table 1 - Number of samples being tested on animals as of April 12, 1951 representing processes and products selected in 1949 for study

	Number of samples	Number of tests*
STRAIGHT THERMAL PROCESSES		
GAS OIL CRACKING		
Charge	3	3
Recycle gas oil	1	1
Fuel oil	2	2
Tar	12	13
VISCOSITY BREAKING		
Cycle gas oil	1	1
Resid	2	2
NAPHTHA REFORMING		
Tar	3	3
COKING		
Charge	1	1
Gas oil	1	1
Heavy gas oil	3	3
Blow down oil	1	1
Wax tailings	1	1
GAS REVERSION (POLYFORMING)		
Tar	3	3
STEAM CRACKING	0	0
CATALYTIC PROCESSES		
HOUDRY		
Heavy gas oil	6	6
THERMOFOR CATALYTIC CRACKING		
Cycle gas oil	1	1
Recycle gas oil	1	1
Synthetic bottoms	9	9
FLUID CATALYTIC CRACKING		
Gas oil	1	1
Heavy cycle gas oil	2	2
Bottoms (700°F) from heavy cycle gas oil	1	2
Decanted oil	8	33
Slurry	2	2
HOUDRYFLOW	0	0
CYCLOVERSION		
Heavy gas oil	1	1

* Does not include animal tests for cocarcinogenicity, effects of washing, or tests on methylcholanthrene or dimethyl benzathracene standards.

API 05130

	Number of samples	Number of tests*
HYDROFORMING		
Bottoms	2	2
DESULFURIZATION (marginal case)	0	0
SPECIFIC PRODUCTS		
ROD WAXES	0	0
SLACK WAXES		
Charge to press	1	1
Dewaxed oil	2	2
CERTAIN RAW LUBE STOCKS (UNTREATED)		
Naphthenic distillate	1	1
Gas oil	1	1
Resid	1	1
SOLVENT EXTRACTS		
Furfural	1	1
Phenol	2	2
Duosol	1	1
Nitrobenzene	1	1
Sulfur dioxide	1	1
ACID OILS FROM ACID SLUDGE		
Hydrolyzed acid sludge	1	1
White oil	1	1
PRODUCTS FROM OTHER INDUSTRIES		
COAL TAR	0	0
WATER GAS TAR	0	0
SHALE OIL - DOMESTIC AND BRITISH	0	0
	82	109

* Does not include animal tests for cocarcinogenicity, effects of washing, or tests on methylcholanthrene or dimethyl benzanthracene standards.

Table 2 - Potencies of oils (methylcholanthrene equivalents) as determined by animal tests reported as of April 12, 1951

High potency - above 0.1
Moderate potency - 0.02 - 0.1
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~ 0.60	FCC Desulfurized press oil from decanted oil W3632	21
~ 0.47	FCC Aromatic fraction (from silica gel) of decanted Oil W3632	8-5
0.33	FCC Dewaxed fraction (MEK-benzol) of a decanted oil	43-1
0.30	FCC Decanted oil	42
0.29	TCC Synthetic bottoms	31
~ 0.24	TCC Gas oil - charge to thermal cracking	29
~ 0.22	Fuel blend from cracking TCC gas oil (Sample 29)	30
0.22	TCC Synthetic bottoms	10
> 0.20	Coking - Heavy gas oil	33
> 0.20	Coking -Blow down oil	53
≥ 0.20	Thermal - Tar from FCC Heavy gas oil	24
0.16	FCC Heavy gas oil	23
0.16	Houdry - Heavy gas oil	11
0.16	Coking - Gas oil	28
≥ 0.16	FCC - Bottoms 700°/ from FCC heavy gas oil	25
> 0.15	Cycloversion - Heavy gas oil	22
> 0.15	Phenol extract, San Joaquin naphthenic distillate	27
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0.14	Thermal - Tar	64
0.13	FCC - 50% Decanted oil W3632; 50% white oil / W.Texas Resid.	8-4
0.13	Thermal tar	55
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0.12	Houdry - heavy gas oil	50
0.10	FCC Heavy gas oil	46
0.09	Houdry heavy gas oil	34
0.08	FCC - 50% bottoms 700° from FCC Heavy CGO, 50% white oil / W. Texas Resid.	25-1
~ 0.08	Coking - heavy gas oil	52
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0.07	FCC Decanted oil fraction 510°-710°, 1-plate vac.dist.	12-4
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Potency	Description of Sample	API Sample Number
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0.03	FCC decanted oil, asphalt from pentane deasphalting	12-1
0.03	FCC decanted oil, resid boiling 1065°, 1-plate vac.dist.	12-6
0.03	TCC synthetic bottoms	9
0.015	FCC decanted oil, 2nd asphalt from pentane deasphalting	12-3
<0.01	Phenol extract, Coastal 900X	16
0	Straight run gas oil	1
0	Straight run resid, Wilmington crude	5

QUESTIONNAIRE - SUBCOMMITTEE ON CARCINOGENICITY
August ~~27~~ 20, 1951

1. Should animal tests be made on samples selected in 1949 but as yet not tested; specifically those from desulfurization, steam cracking, rod waxes, coal tar, water gas tar, domestic and British shale oil?

2. Should additional samples representing any of the processes and products in the 1949 list be tested on animals? If so, which ones?

3. Should the animal testing program be continued on its present scale for one more year or for two more years, by the selection of additional samples from various processes or should it taper off and be confined to the necessary animal tests in connection with the development of an analytical technique?

4. Should a large-scale animal testing program be initiated on fuel oils to determine their potential hazards, if any, or should evaluation of these fuels await the development of an analytical technique?

5. Should efforts be directed toward development of a technique to eliminate the carcinogenic effect of an oil by removal or conversion of the carcinogens?

6. Should the epidemiological study
   a. be continued for an indefinite period on an industry-wide basis,
   b. be maintained as a current registry of actual cases from petroleum products, or
   c. be limited to studies of a smaller number of refineries and other operations where medical departments exist and reliable medical data can be obtained?

4. Has sufficient information been developed to date in these studies to enable the individual companies to formulate adequate control measures
   a. for their own employes,
   b. for their customers?

5. For how long should the total expenditures be continued at the present rate of $100,000 per year or should they be reduced to an amount sufficient to cover specific objectives only?

6. What other comments or recommendations do you have?

Signed_____ Company_____ Date_____

Please return to Dr. M. N. Newquist, The Texas Company, 135 East 42nd Street, New York 17, N.Y.

September 24, 1951

Dr. M. E. Newquist
The Texas Company
135 East 42nd Street
New York 17, New York

Dear Doctor Newquist:

The enclosed letter, dated August 24, from F. J. Sanders has been found in my desk file. It should have been sent to you a month ago.

Very truly yours,

DVS:c
Enclosure

THE TEXAS COMPANY
135 EAST 42ND STREET
NEW YORK 17, N.Y.

M N NEWQUIST, M.D
MEDICAL DIRECTOR

September 13, 1951

Mr. D. V. Stroop
American Petroleum Institute
50 West 50th Street
New York 20, N. Y.

Dear Mr. Stroop:

As mentioned in your letter of September 11, 1951, a meeting of the Subcommittee on Carcinogenicity will be held on Friday afternoon, November 2nd, 2:00 to 6:00 P.M.

The question as to budgetary requirements again confronts us. Since the Medical Advisory Committee meets prior to the A.P.I. meeting, will that give you sufficient time to develop the necessary budgetary data, or do you wish us to supply this information within the near future? If our recent questionnaire on the scope of future research on carcinogenicity indicates continuance of our present studies in the same magnitude for the year 1952-53, our financial requirements will then be approximately the same as for the current year. All of the questionnaires have not yet been returned.

Very truly yours,

M. N. NEWQUIST, M.D.

MNN:RMS

cc: Dr. B. B. Reeve

API 05137

135 East 42nd Street
New York 17, N.Y.
October 17, 1951

Members and Associates
Subcommittee on Carcinogenicity

I am enclosing a summary of the 39 replies to the questionnaire which was sent to you on August 20. Of the Subcommittee, answers were received from all 13 members and from 8 of 12 associate members. In addition, replies were received from 8 of 15 members and 10 of 19 associate members of the Medical Advisory Committee at large. The 39 replies are from members and associates from practically all of the companies represented on the Medical Advisory Committee.

While the individual replies varied somewhat, it was possible to group them essentially as shown in the summary on the next two pages. A more detailed tabulation of the replies to each question is also enclosed.

You will no doubt wish to review this summary prior to the November meeting. It, together with any further suggestions you may have, should provide a good basis for the Committee to collaborate effectively in shaping plans for future work on the carcinogenicity project at Kettering Laboratory.

Thanking you for your cooperation, I am

Very truly yours,

M. N. Newquist, M.D.
Chairman, Subcommittee on Carcinogenicity

MNN:GH
Attach.

mc. Members and associates, Medical Advisory Committee
Dr. R. A. Kehoe
Mr. D. V. Stroop

SUMMARY OF REPLIES
TO
QUESTIONNAIRE - SUBCOMMITTEE ON CARCINOGENICITY

1. Should animal tests be made on samples selected in 1949 but as yet not tested; specifically those from desulfurization, steam cracking, rod waxes, coal tar, domestic and British shale oil?

No	10
Yes	14
Certain ones only	13

2. Should additional samples representing any of the processes and products in the 1949 list be tested on animals? If so, which ones?

No	21
Yes	5
Some	3
Other processes and products	6
No answer	2

3. Should the animal testing program be continued on its present scale for one more year or for two more years, by the selection of additional samples from various processes or should it taper off and be confined to the necessary animal tests in connection with the development of an analytical technique?

Taper off on animal tests and expand on analyt.tech.	26
Continue at present scale	7
As decided by Committee	3
No answer	1

4. Should a large-scale animal testing program be initiated on fuel oils to determine their potential hazards, if any, or should evaluation of these fuels await the development of an analytical technique?

Await analytical technique	28
Initiate animal testing program	8
No answer	1

5. Should efforts be directed toward development of a technique to eliminate the carcinogenic effect of an oil by removal or conversion of the carcinogens?

No	28
Yes	6
No answer	3

6. Should the epidemiological study
   a. be continued for an indefinite period on an industry-wide basis,
   b. be maintained as a current registry of actual cases from petroleum products, or
   c. be limited to studies of a smaller number of refineries and other operations where medical departments exist and reliable medical data can be obtained?

a	5
b	16
c	25
None	1
Revise present procedure	2
Opinion deferred	2
No answer	2

7. Has sufficient information been developed to date in these studies to enable the individual companies to formulate adequate control measures
   a. for their own employees,
   b. for their customers?

Employes	Yes	19	No	15
Customers	Yes	6	No	28
No answer	3			

8. For how long should the total expenditures be continued at the present rate of $100,000 per year or should they be reduced to an amount sufficient to cover specific objectives only?

Reduce for specific objectives	26
Continue at present rate	10
No answer	1

9. What other comments or recommendations do you have?

See attached exhibit

REPLIES TO QUESTIONNAIRE - SUBCOMMITTEE ON CARCINOGENICITY

QUESTION 1

Should animal tests be made on samples selected in 1949 but as yet not tested; specifically those from desulfurization, steam cracking, rod waxes, coal tar, domestic and British shale oil?

	SUB-COMM. M	SUB-COMM. A	NON-COMM. M	NON-COMM. A	TOTAL
No	2	2	2	4	10
No - if analytical technique is sufficient			1	1	2
Yes	4		2	2	8
Yes - newly collected samples, domestic materials before Brit.			1	1	2
Yes - limited number	1	1			2
Yes - rod waxes only		1	1		2
Yes - rod waxes, coal tar, British shale oil only	1	2			3
Yes - rod waxes, coal tar, crudes only	2	1			3
Yes - shale oil only	1	1	1	2	5

SUMMARY

No	10
Yes	14
Certain ones only	13

REPLIES TO QUESTIONNAIRE - SUBCOMMITTEE ON CARCINOGENICITY

QUESTION 2

Should additional samples representing any of the processes and products in the 1949 list be tested on animals? If so, which ones?

	SUB-COMM. M	SUB-COMM. A	NON-COMM. M	NON-COMM. A	TOTAL
No	5	3	3	6	17
No, probably		1			1
Not too important	1				1
No - if analytical technique is sufficient			1	1	2
Yes	1	1			2
Yes, probably	1				1
Yes - only in connection with analytical technique		2			2
Yes - high potency products only			1	1	2
Yes - some, based on Dr. Kehoe's advice	1				1
Yes - rod waxes			1		1
Yes - asphalts, lube oils, aromatic solvents, cutting oils and other products where exposure factor is high	2	1			3
Yes - sulfur dioxide extract oils from cat.gas oils; methyl naphthalene, heavy nitrogen cyclic cpds., heavy virgin gas oils; HF acid soluble oils; heavy oils from dehydrogenation of butane and butylene			1	1	2
No answer			1	1	2

SUMMARY

No	21
Yes	5
Some	3
Other processes and products	6
No answer	2

REPLIES TO QUESTIONNAIRE - SUBCOMMITTEE ON CARCINOGENICITY

QUESTION 3

Should the animal testing program be continued on its present scale for one more year or for two more years, by the selection of additional samples from various processes or should it taper off and be confined to the necessary animal tests in connection with the development of an analytical technique?

	SUB-COMM.		NON-COMM.		TOTAL
	M	A	M	A	
Taper off on animal tests and expand analytical technique	4	1	4	8	17
Restrict new samples and complete analytical technique	1	4			5
Restrict and complete analytical technique, study fuel oils		1			1
Analytical technique only, if limited to one choice	1				1
Continue for 2 years at least	1		3	2	6
Should be continued for many years	1				1
Continue especially for analytical technique	1	1			2
Continue at such scale as decided by Medical Advisory Committee	2	1			3
No answer			1		1

SUMMARY

Taper off on animal tests and expand on analytical technique	26
Continue at present scale	7
As decided by Committee	3
No answer	1

REPLIES TO QUESTIONNAIRE - SUBCOMMITTEE ON CARCINOGENICITY

QUESTION 4

Should a large-scale animal testing program be initiated on fuel oils to determine their potential hazards, if any, or should evaluation of these fuels await the development of an analytical technique?

	SUB-COMM. M	SUB-COMM. A	NON-COMM M	NON-COMM A	TOTAL
Await development of analytical technique	3	1	3	5	12
Await analytical technique - include 1920-1940 fuels without catalytically cracked fractions		2			2
Check analytical technique by animal tests	2		1		3
No animal testing for fuel oils	2	2			4
No need to concentrate on residual fuel oils	2	1			3
Review animal testing program before starting			1	1	2
Yes for animal testing	1	1			2
Yes, for animal testing on a limited scale for typical types of operations	1	1	1	3	6
Yes, after present project is completed or shows more positive results			1	1	2
No answer			1		1

SUMMARY

Await analytical technique	28
Initiate animal testing program	8
No answer	1

REPLIES TO QUESTIONNAIRE - SUBCOMMITTEE ON CARCINOGENICITY

QUESTION 5

Should efforts be directed toward development of a technique to eliminate the carcinogenic effect of an oil by removal or conversion of the carcinogens?

	SUB-COMM. M	SUB-COMM. A	NON-COMM. M	NON-COMM. A	TOTAL
No	2	3	3	8	16
No - O.K. though in connection with the study of pure carcinogens	3	2			5
No - but determine the carcinogen	1				1
Premature - probably not a Med. Adv. Comm. function	2	2	1	1	6
Yes	2		2		4
Yes - preliminary efforts only		1			1
Yes - for consumer protection	1				1
Indefinite - conversion would be safer than removing carcinogens			1	1	2
No answer			1		1

SUMMARY

No	28
Yes	6
No answer	3

REPLIES TO QUESTIONNAIRE - SUBCOMMITTEE ON CARCINOGENICITY

QUESTION 6

Should the epidemiological study
a. be continued for an indefinite period on an industry-wide basis,
b. be maintained as a current registry of actual cases from petroleum products, or
c. be limited to studies of a smaller number of refineries and other operations where medical departments exist and reliable medical data can be obtained?

	SUB-COMM. M	SUB-COMM. A	NON-COMM. M	NON-COMM. A	TOTAL
b and c only	5	2	2	3	12
b or c			1	3	4
a only	1	2	1		4
a if possible		1			1
c only	2	1	3	3	9
Modify present survey and then make an epidemiological study	1	1			2
Obtain Dr. Phair's opinion	1	1			2
No epidemiological study	1				1
No answer			1	1	2

SUMMARY

a	5
b	16
c	25
None	1
Revise present procedure	2
Opinion deferred	2
No answer	2

REPLIES TO QUESTIONNAIRE - SUBCOMMITTEE ON CARCINOGENICITY

QUESTION 7

Has sufficient information been developed to date in these studies to enable the individual companies to formulate adequate control measures
a. for their own employes,
b. for their customers?

	SUB-COMM. M	SUB-COMM. A	NON-COMM. M	NON-COMM. A	TOTAL
Employes, yes - customers, yes			2	2	4
Employes, yes - customers, no	5	2	2	4	13
Employes yes - customers, yes (tentatively)	1			1	2
Employes, no - customers, questionable		2	1		3
Employes, no - customers, no	5	3	2	2	12
Cannot answer intelligently		1			1
No answer			1	1	2

SUMMARY

Employes	Yes	19	No	15
Customers	Yes	6	No	28
No answer	3			

REPLIES TO QUESTIONNAIRE - SUBCOMMITTEE ON CARCINOGENICITY

QUESTION 8

For how long should the total expenditures be continued at the present rate of $100,000 per year or should they be reduced to an amount sufficient to cover specific objectives only?

	SUB-COMM. M	SUB-COMM. A	NON-COMM. M	NON-COMM. A	TOTAL
For specific objectives only	3	3	6	8	20
Should taper off soon	1				1
At such scale as decided necessary by Med.Adv.Comm.	2	3			5
Continue for one year and then review				1	1
Continue for at least 2 years	1	1	1	1	4
Continue as at present	1				1
Contine at present rate but alter line of emphasis	1	1			2
Continue until completed, even if higher cost	2				2
No answer			1		1

SUMMARY

Reduce for specific objectives	26
Continue at present rate	10
No answer	1

REPLIES TO QUESTIONNAIRE - SUBCOMMITTEE ON CARCINOGENICITY

QUESTION 9

What other comments or recommendations do you have?

	SUB-COMM. M	SUB-COMM. A	NON-COMM. M	NON-COMM. A	TOTAL
Study protective creams	7	4	2		13
Study protective creams and washing	3	1			4
Study protective clothing and devices	4	1			5
Study cleansing agents			1		1
Inhalation studies of potent oils as possible pulmonary carcinogens	3	2	1		6
Evaluate hazard to humans (using monkeys) of oil vapors alone	1	1			2
Animal tests with and without washing but stopping application when first tumor appears	1	1			2
Develop a non-biological test	1	1			2
Continue or expand work on isolation of pure carcinogens	1	1			2
Test monkeys or dogs to get better human correlation	1				1
Translate animal test results to humans		1			1

	SUB-COMM. M	SUB-COMM. A	NON-COMM. M	NON-COMM. A	TOTAL
Develop information on what constitutes hazard with respect to concentration and length of exposure	1				1
Develop reasonable potency factor applicable to normal working conditions			1	3	4
Discuss matter of consumer risk			1	1	2
Develop information to compare properties of cat. and thermal oils which are potent to mice with slack waxes and spinning oils where human exposures are known	1				1
Study marketed products	1		1		2
Study lube oils (insoluble cutting oils) where exposure factor is high	1	1			2
Study soot from chimneys where oil and coal are used as fuel	1		1		2
Study single ring aromatics or 2-condensed ring aromatics to see if they act similarly to dodecyl benzene		2			2
Study cocarcinogenic effect of ultra-violet radiation			1		1
Continue sufficient studies to maintain a continuing reassurance that present conclusions are sound			1	2	3
Gather all possible information for possible future medico-legal use			1	1	2
Collaborate with General Comm. on Refining in the definition of future work	1				1

Replies to Questionnaire
Question 9

	SUB-COMM. M	SUB-COMM. A	NON-COMM. M	NON-COMM. A	TOTAL
Express commendation for excellent work done	1		1		2
Prefers to defer opinion until November meeting	2				2

10-26-51

MAC PAYMENTS DUE:

Professor Philip Drinker - January 1952
($2,500)

Carcinogenicity - January 1952
($31,692.42)

Fluorine Project - June 1952
($2,500)

BALANCE ON DEPOSIT $

10-1-51 = 83,431.84

PAYABLE 12-31-51 = 34,192.42

Bal 1-1-52 = $49,239.42

Proposed to raise 100,000.00

149,239.42

Budget -

Carcinogenicity	< 100,000	
Tox Reviews	< 6,000	
Drinker	2,500	
Fluorides	2,500	
Skin Research	7,500	
	118,500	118,500.00
	2	$30,739.42

API 05152



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API 05153

Recd under personal and confidential cover — Nov. 9 1951 DVS

UNIVERSITY OF CINCINNATI
COLLEGE OF MEDICINE
CINCINNATI 19, OHIO

STERNS LABORATORY OF APPLIED PHYSIOLOGY

CABLE ADDRESS: KETLAB, CINCINNATI
TELEPHONE: UNIVERSITY 2665

November 5, 1951

Mr. D.V. Stroop, Director
Technical Service Division
American Petroleum Institute
50 West 50th Street
New York 20, New York

Dear Mr. Stroop:

During the meeting last Friday of the Subcommittee on Carcinogenicity we discussed a tentative lineup of associate members for the proposed Steering Committee. Since later developments seemed to have limited the size of the committee to four medical members and four technical associates, some revision of our tentative suggestions is perhaps in order.

Since there are important differences in the interests of companies in different parts of the country in any particular phase of this investigation, it would seem most desirable that the technical half of the Steering Committee bring together men from each of the four major refining areas: East Coast, Midwest, Southwest, and California. It would further seem that in view of the small size of the proposed group no two voting members should represent the same company or its affiliates.

In the technological and analytical aspects of this project we have enjoyed the active cooperation of the technical staffs of over 90 per cent of the companies represented on the Medical Advisory Committee. Hence, in tentatively suggesting the following group of technical men for membership on the Steering Committee we are in no way inferring a lack of interest or cooperation on the part of other companies but rather aiming at the bringing together of a group representative of the widely varying interests of different segments of the petroleum industry.

East Coast	R. D. Bent
Midwest	E. W. Adams
Southwest	C. A. Neilson
California	R. C. Mithoff

The suggestion that Mr. Bent represent the East Coast refiners reflects our feeling that his approach and that of his company to this problem represent best a compromise between the widely divergent and competitive viewpoints of the groups who make New York their headquarters. Since the medical group must almost of necessity include representatives of the Texas Company and Jersey, the New Yorkers should not feel neglected.

We would again urge that the medical half of the Steering Committee include representation from the Southwestern and California oil companies. Our vote here for Dr. Kieffer Davis requires no explanation. Dr. L. E. Curtis has already put in a rather strong vote for Dr. J.C. Ruddock for the medical representative for the California group. We can add to that our observation that the cooperation of the Richfield group, through Mr. C. R. McKay, has been tops.

In view of the very important role this Steering Committee will have, we very much hope, that through your good offices as moderator, the various competitive groups in New York will have no reason to feel dissatisfied with its lineup. Our suggestions above are only very tentative in character. We shall make every effort to cooperate effectively with whatever group the Medical Advisory Committee chooses to represent it.

I appreciated very much your frank advice concerning the feelings of some members of the committee.

Sincerely yours,

A. Wesley Horton

AWH:mjg

Note: This was mailed 11/13/51 MNN

AMERICAN PETROLEUM INSTITUTE
50 WEST 50TH STREET
NEW YORK 20, N. Y.

OFFICE OF THE PRESIDENT

November 16, 1951

To Members and Associates
Medical Advisory Committee

Gentlemen:

Dr. M. N. Newquist, Chairman of the Subcommittee on Carcinogenicity, has appointed the following persons to serve on the Research Project Advisory Committee to collaborate with Dr. Kehoe and his staff concerning the A.P.I. project on carcinogenicity:

M. N. Newquist, M.D. Chairman
E. W. Adams
L. C. Beard, Jr.
Kieffer Davis, M.D.
R. E. Eckardt, M.D.
T. M. Frank, M.D.
C. H. Hine, M.D.
R. M. Landon
E. K. Linder, M.D.
K. G. Mackenzie
R. C. Mithoff
R. M. Shepardson

The RPA Committee has been made large enough to insure continuity of its work by an adequate working attendance and representation at its meetings. The RPA Committee does not replace the Subcommittee on Carcinogenicity.

A meeting of the RPA Committee will be held at the Kettering Laboratory in Cincinnati, Monday, November 26th commencing at 10:00 A.M. and continuing through Tuesday forenoon, November 27th, if necessary. Dr. Kehoe has tentatively reserved eight rooms at the Terrace Plaza Hotel. Committee members attending should notify the hotel at once as to time of arrival, indicating that the reservation had been made tentatively by Dr. Kehoe. Also notify Dr. Newquist whether or not you will attend the meeting.

Very truly yours,

D. V. Stroop

API 05156

THE TEXAS COMPANY
135 EAST 42ND STREET
NEW YORK 17, N.Y.

M. N. NEWQUIST, M. D.
MEDICAL DIRECTOR

November 16, 1951

Mr. D. V. Stroop
American Petroleum Institute
50 West 50th Street
New York, N. Y.

Dear Mr. Stroop:

If the attached letter concerning the Research Project Advisory Committee meets with your approval, will you kindly have it mimeographed and send out at once.

Very truly yours,

M. N. NEWQUIST, M. D.

MNN:RMS
ENC.

November 19, 1951

Dr. M. N. Newquist,
The Texas Company,
135 East 42nd Street,
New York 17, New York.

Dear Dr. Newquist:

Kindly refer to Mr. Stroop's letter of November 16, 1951, in regard to the Research Project Advisory Committee meeting on November 26-27 at Cincinnati.

I expect to be among those present.

With best regards,

Very truly yours,

R. M. Landon

RML/rj

cc: Mr. D. V. Stroop

November 20, 1951

To Members of the R.P.A. Committee
of Subcommittee on Carcinogenicity

Gentlemen:

I am attaching for your information an outline of proposed studies as contained in the Kettering Laboratory report of September 25, 1951, and also a portion of the minutes of the Medical Advisory Committee meeting pertaining to the report of the Subcommittee on Carcinogenicity.

The attached data may be of assistance to you by pointing out some of the subjects for discussion at the meeting at Kettering Laboratory November 26th. We hope to expedite the discussion so that we will be able to conclude the business at hand in one day, if possible.

Very truly yours,

M. N. NEWQUIST, M.D.

E. W. Adams
L. C. Beard, Jr.
Kieffer Davis, M.D.
R. E. Eckardt, M.D.
T. M. Frank, M.D.
C. H. Hine, M.D.
R. M. Landon
E. K. Linder, M.D.
K. G. Mackenzie
R. C. Mithoff
R. M. Shepardson

B. B. Reeve, M.D.
D. V. Stroop ✓ for information

API 05159

PROPOSED STUDIES AS LISTED IN METTLER LABORATORY REPORT OF SEPTEMBER 25, 1951

1. Effects of cocarcinogens - more thorough investigation of hydrocarbon types in 500° - 700° F. boiling range (p. 3, 12, 13, 25 and 30)

2. Establish a sufficient volume of biological and physico-chemical data on thermally-cracked sidestreams to expedite development of an analytical technique for these sidestreams (p. 4 and 23)

3. Broad survey of lube distillates - initially by spectrophotometry and later confirmation of unusual potencies by mouse testing (p. 4 and 15)

4. Larger volume of biological data on residua from thermal cracking of virgin feeds - to correlate spectrophotometric characteristics with carcinogenic potencies (p. 5 and 25)

5. Consider a study of cracked tars from catalytic reforming (p. 15)

6. Continue study of blends of refinery intermediates, the most important of these products being industrial fuel oils and road oils (analytical phases must await results of biological tests (p. 15 and 23)

7. Continue study of a packaged lube oil and an oil of 100+ V.I. (p. 19)

8. Continue study on methylcholanthrene reference standards (p. 19)

9. Studies to develop a rapid test to determine whether a given hydrocarbon solvent is carcinogenic (p.20)

10. Continue washing experiments (p. 20)

11. Continue protective cream experiments (p. 21)

12. Chemical synthesis to establish identity of the active carcinogens in oils (p. 30)

13. Study effects of cocarcinogens in connection with air oxidation tests (p. 31)

7. That it be ascertained whether or not groups of twenty mice are statistically adequate for biological testing in this project.

8. That potency figures be expressed separately for papillomas and malignancies.

9. That detailed data sheets on all completed experiments be included as a part of all progress reports from Kettering Laboratory.

10. That the interim report, dated September 25, 1951, be not transmitted to Institute of Petroleum, London, until after collaboration of the Research Project Advisory Committee with Dr. Kehoe, in order to allow for inclusion in the text of more recent findings and conclusions in connection with current studies.

11. That the epidemiological survey work be continued on its present basis for the time being.

ACTION Following an extended and detailed discussion of the report, the Committee voted to accept the first, second, and eleventh recommendations but to refer the other eight recommendations back to the Subcommittee for assignment to its Research Project Advisory Committee for an early conference with project directors in the formulations of a mutually acceptable 1952 program of work.

J 11-26-5L

MEMORANDUM FROM THE KETTERING LABORATORY ON FURTHER PROSECUTION OF API RESEARCH PROJECT MC-1

Scope of Project

In February, 1949, the Medical Advisory Committee recommended that materials from the following processes be studied:

NON-CATALYTIC CRACKING

Cracking of catalytic gas oil
Cracking of virgin gas oil
Viscosity breaking of residues or extracts
Naphtha reforming
Coking
Gas reversion and polyforming
Steam cracking

CATALYTIC CRACKING

Houdry
T. C. C.
F. C. C.
Houdryflow
Cycloversion
Hydroforming
Desulfurization (marginal case)

PRODUCTION AND LUBE REFINING

Rod waxes
Slack waxes and press oils
Certain raw lube stocks (untreated)
Solvent extracts (furfural, phenol, sulfurdioxide)
Acid oils from acid sludge (marginal case)

PRODUCTS FROM OTHER INDUSTRIES

Coal tar
Water gas tar
Shale oil - domestic and British sources.

In line with the interests of this committee and further recommendations expressed at the regular meetings, the following related phases of the problem have been given careful attention by the investigative group:

1. Analytical techniques to estimate the order of potency of any given stream from any of the processes listed above.
2. Epidemiological appraisal of the incidence of cancer among employees of the petroleum industry.
3. Hygienic measures to reduce hazard to employees of the petroleum industry.
4. Dilution of carcinogenic oils as a means of reducing potential hazards to employees of industrial consumers of various petroleum products containing these oils.

Plans for Investigative Work for 1952

A. Process Samples for Animal Tests.

1. Cracked residue from thermal cracking of virgin gas oils (samples to be collected).
2. Sidestreams and residua from other cracking processes to be tested on a limited basis to improve analytical methods of estimating potency and further to test the validity of these methods (these samples already collected, analyzed spectrophotometrically, and held in reserve in the laboratories of twenty-one of the participating companies).
3. Untreated lube stocks from straight run distillation now being screened by analytical methods. Samples to be selected for animal testing on the basis of a comparison of their physical properties (including absorption spectra) with those of virgin distillates already tested.

API 05163

4. Scottish shale oil and fractions thereof. To gain further analogies between potencies to mice and potential hazards to exposed humans, two or three fractions of shale oil comparable to those employed as spindle lubricants in the British cotton industry to be tested. (Samples already collected and held at Kettering Laboratory).

B. Reference Standards.

For control purposes and improvement of biological methods it is contemplated that tests on known concentrations of standard carcinogens in standard solvents will be carried out with about 9 percent of the animals received.

C. Analytical Techniques for Estimating Carcinogenic Potencies of Petroleum Products.

Chemical research will continue on the two main approaches to this goal, the empirical and the fundamental. Animal testing of fractions which can furnish useful information for this purpose will, as in the past, be given priority over tests on process samples. At the same time, it is recognized that an analytical tool has very limited significance when based on an inadequate number of biological tests of samples of materials to which it is to be applied.

Tests on non-carcinogenic fractions of various oils will be conducted to determine the effects of variations in the composition of these fractions upon the total effective potency of the oils. It is obvious that if fractions which do not contain polycyclic carcinogens are markedly affecting

API 05164

the rate of induction of tumors in the test animals, then any tool based purely on the concentration of polycyclics will be seriously limited in general applicability.

D. Epidemiological Studies.

Efforts to expedite the collection of case records and other pertinent information on an industry-wide basis will be continued. At the present rate of reporting, there should be sufficient accumulation of information by the time of the spring meeting in 1952 to permit a preliminary tabulation of the data.

E. Experimental Study of Efficacy of Various Cleansing Agents and Skin Creams.

As soon as the current tests which employ rinsing with white oil and washing with detergent solution have been completed, new experiments will be started to compare hydrocarbon solvents, such as technical white oil, with the viscous medicinal white oil currently employed as a rinsing material.

Further tests with other skin creams will be designed on the basis of the results of the current tests with "Verex."

F. Dilution of Carcinogenic Oils.

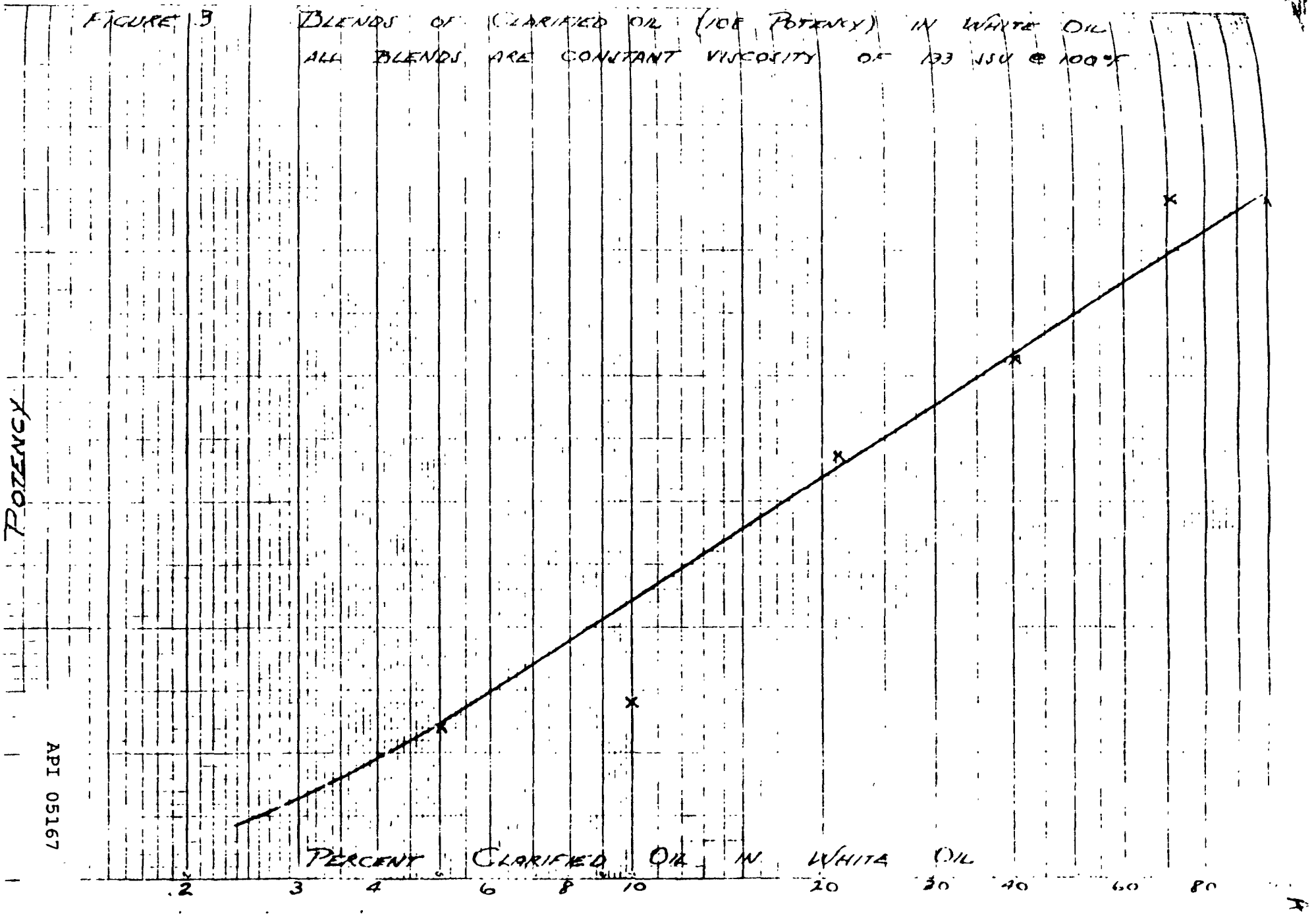
Sixteen of the participating companies have already started or completed collection of representative production blends containing carcinogenic streams from catalytic cracking or recycle coking, together with data on the composition of these blends. The majority of the members

API 05165

of the committee have evidenced their desire for an analytical tool applicable to these complex mixtures. Since it is obvious that no such tool could be developed without knowing the biological potency of at least a few of the blends, a selected group of these materials, on which detailed information is available, should be subjected to animal testing.

November 26, 1951

FIGURE 3 BLENDS OF CLARIFIED OIL (100 POTENCY) IN WHITE OIL
ALL BLENDS ARE CONSTANT VISCOSITY OF 133 SSU @ 100°F



API 05167

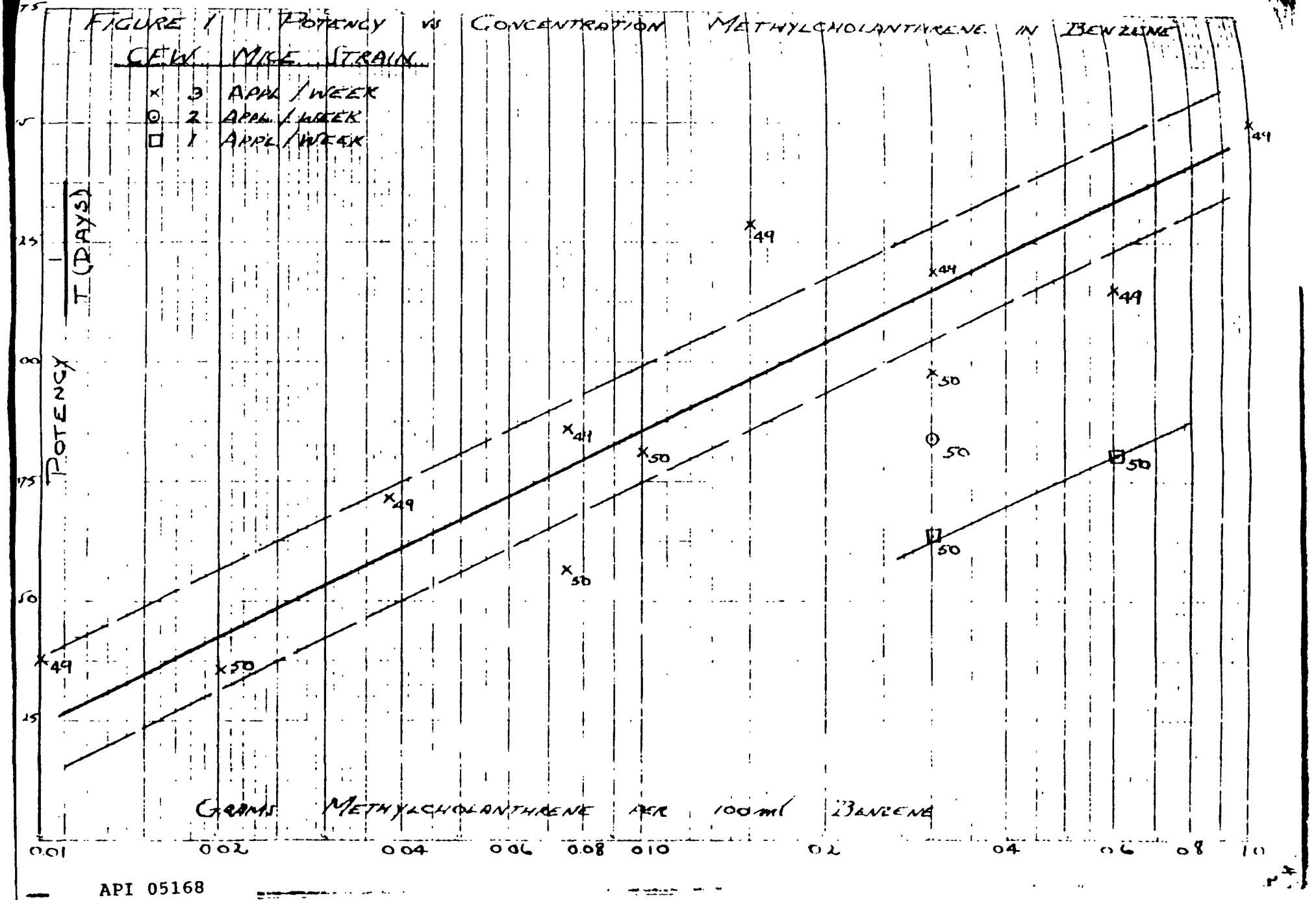
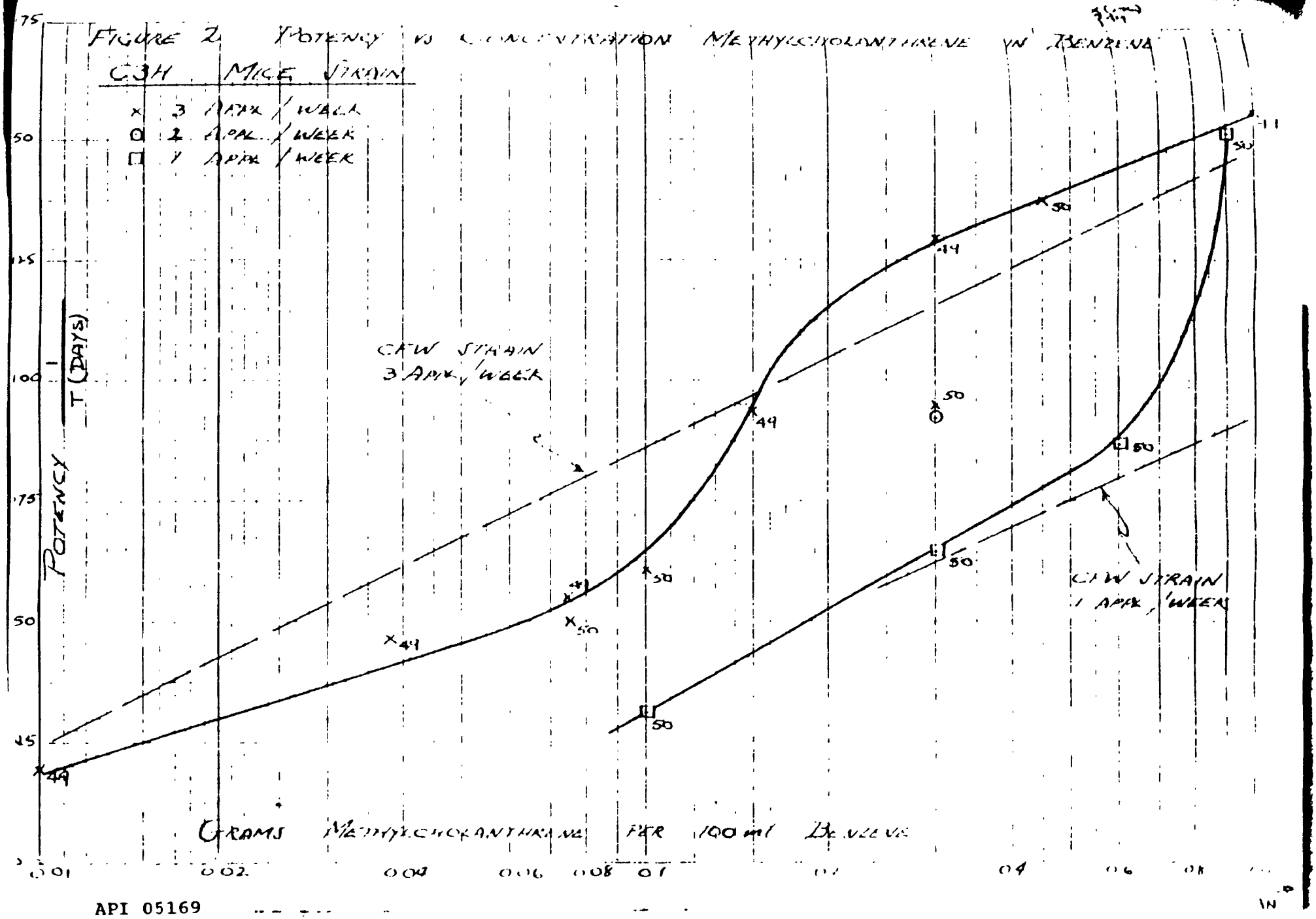


FIGURE 1 POTENCY VS CONCENTRATION METHYLCHOLANTHRENE IN BENZENE
CFW MICE STRAIN
× 3 APPL / WEEK
⊙ 2 APPL / WEEK
□ 1 APPL / WEEK
POTENCY
1 / T (DAYS)
GRAMS METHYLCHOLANTHRENE PER 100 ml BENZENE
0.01
0.02
0.04
0.06
0.08
0.10
0.2
0.4
0.6
0.8
1.0

FIGURE 2. POTENCY VS CONCENTRATION METHYLCHOLANTHRENE IN BENZENE

C3H MICE STRAIN

× 3 APPL / WEEK
○ 2 APPL / WEEK
□ 1 APPL / WEEK

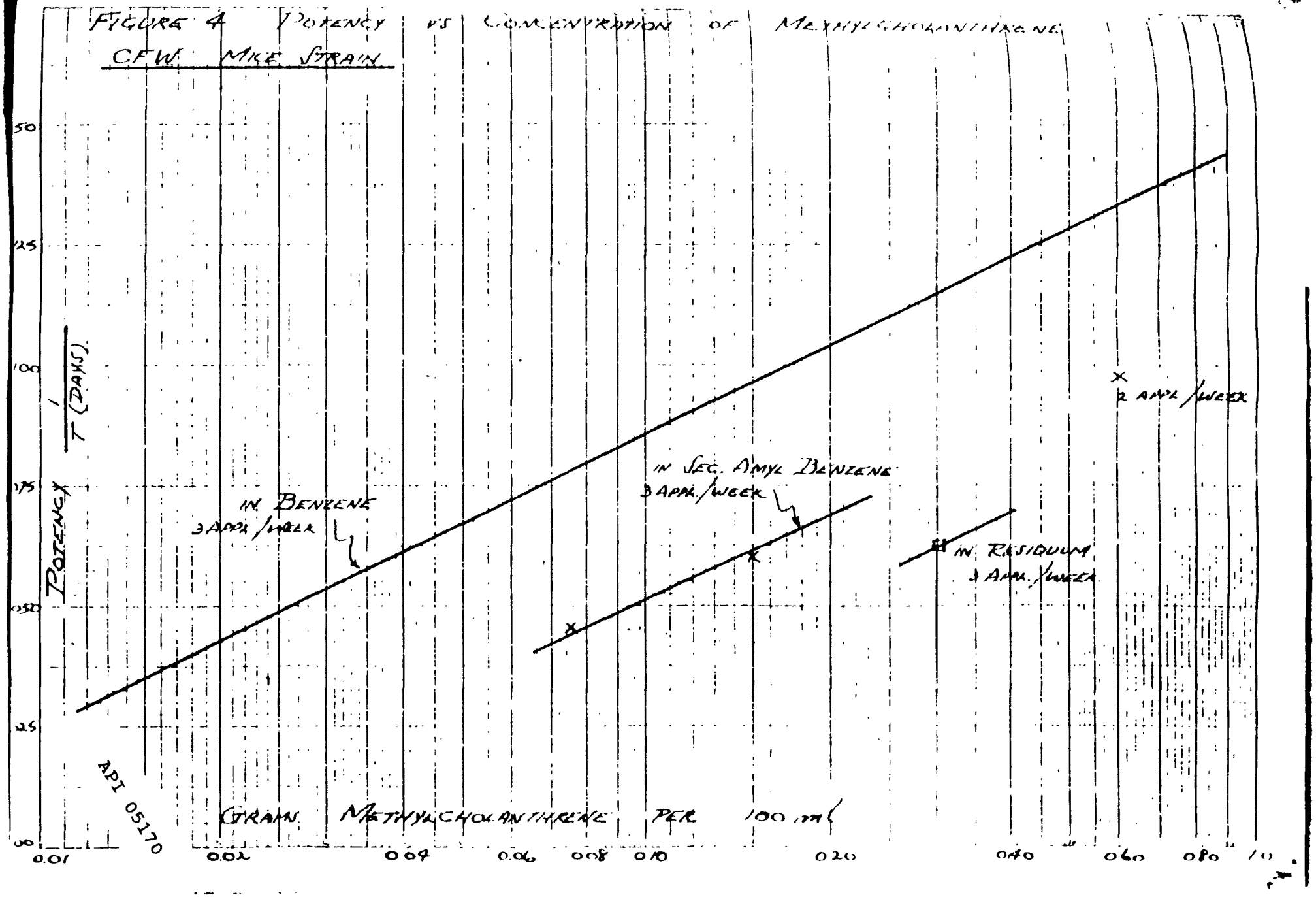


GRAMS METHYLCHOLANTHRENE PER 100 ml BENZENE

API 05169

FIGURE 4 POTENCY VS CONCENTRATION OF METHYLCHOLANTHRENE

CFW MICE STRAIN



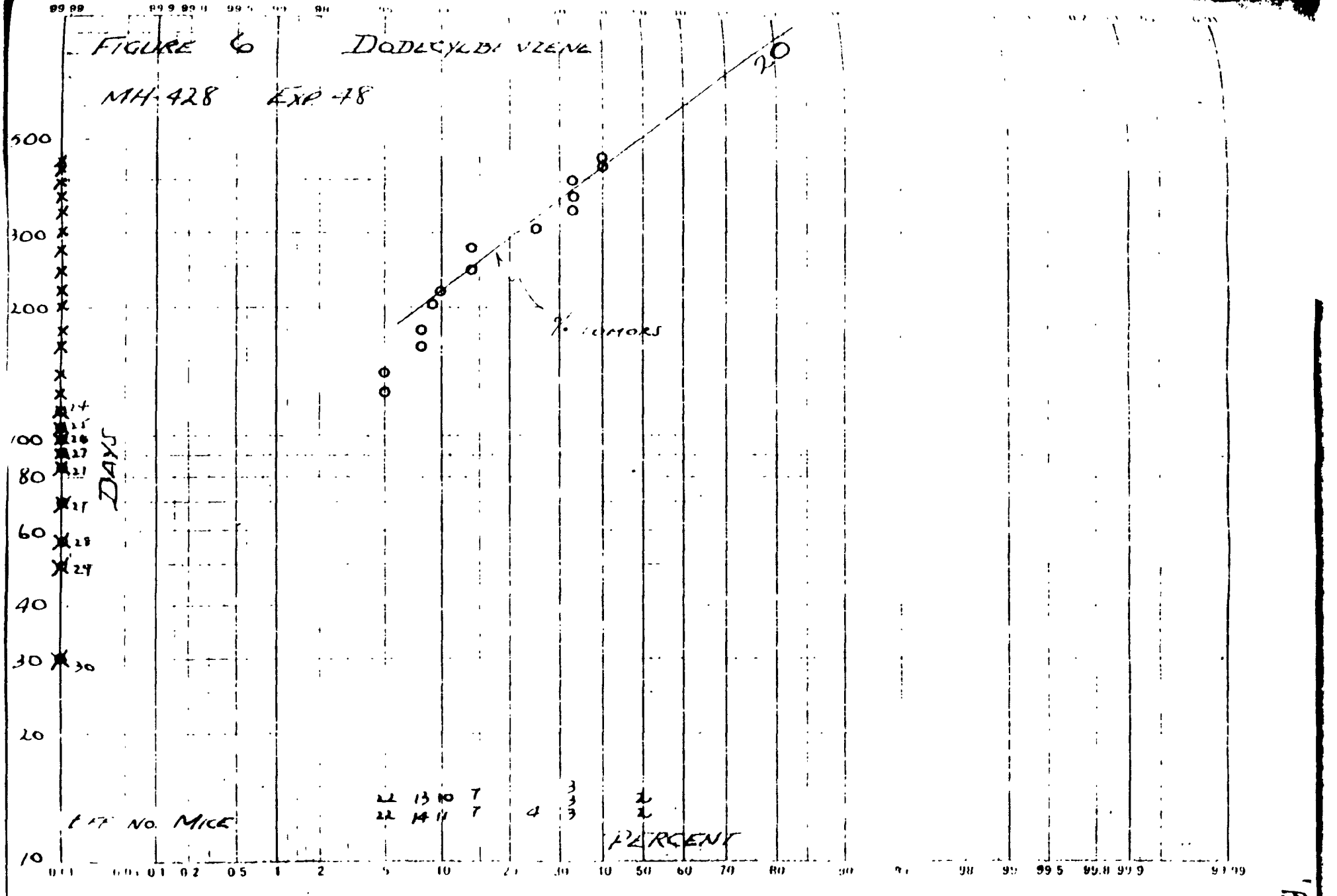


FIGURE 6 DODECYLBENZENE
MH-428 EXP 48
DAYS
% TUMORS
EFF NO. MICE
PERCENT
500
300
200
100
80
60
40
30
20
10
20

API 05171

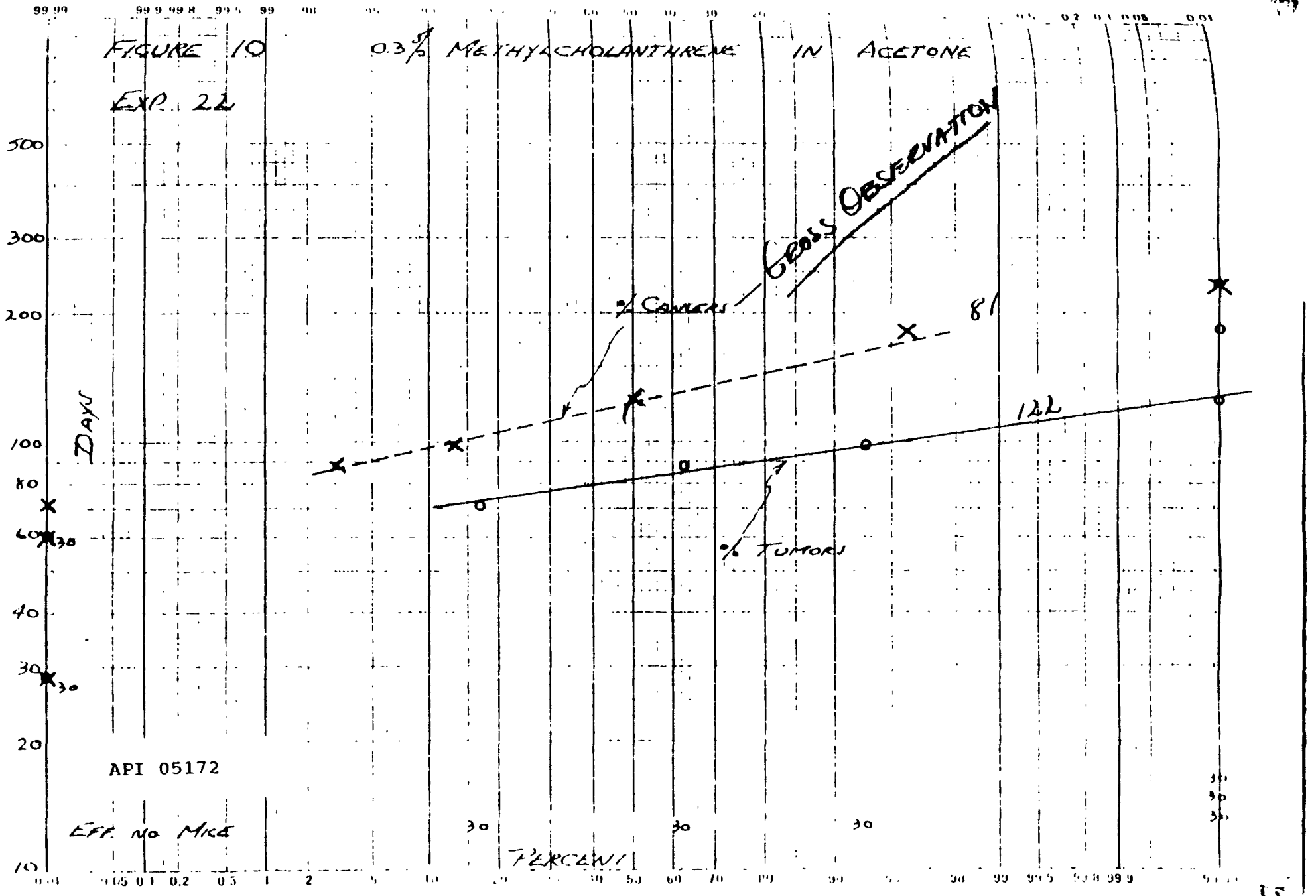


FIGURE 10
0.3% METHYLCHOLANTHRENE IN ACETONE
EXP. 22
Gross Observation
% Cancers
% Tumors
81
122
Days
500
300
200
100
80
60
40
30
20
10
30
30
30
30
30
30
API 05172
EFF. No MICE
PERCENT

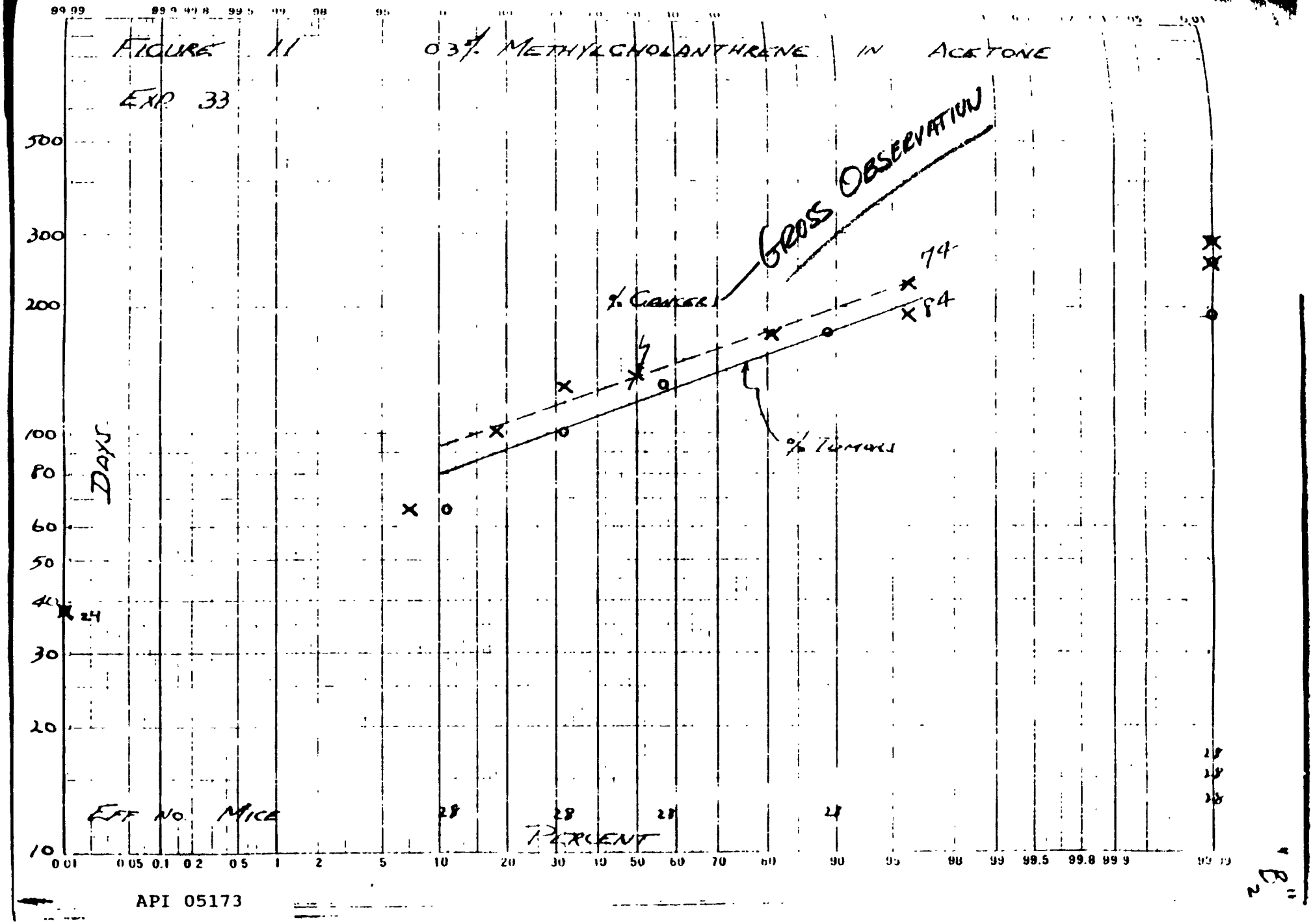


FIGURE 11
0.3% METHYLCHOLANTHRENE IN ACETONE
EXP 33
GROSS OBSERVATION
% CANCER
% TUMORS
74
84
24
28
28
28
24
EXP NO MICE
PERCENT
DAYS
500
300
200
100
80
60
50
40
30
20
10
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0.05
0.1
0.2
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1
2
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70
80
90
95
98
99
99.5
99.8
99.9

API 05173

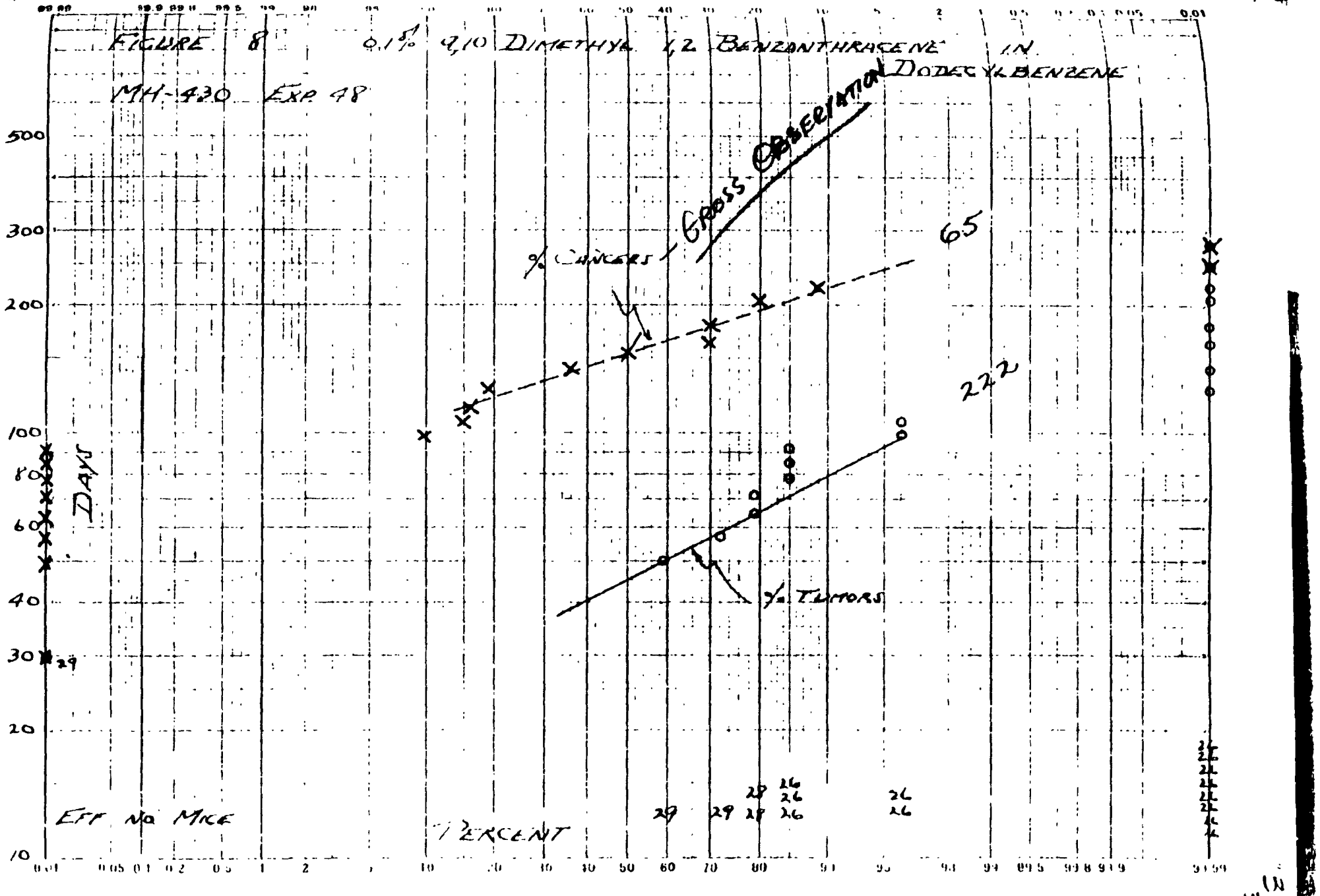
FIGURE 8 0.1% 9,10 DIMETHYL 1,2 BENZANTHRACENE IN DODECYLBENZENE
MH-430 EXP 48
GROSS OBSERVATION
% CANCERS
65
222
% TUMORS
DAYS
EFF NO MICE
PERCENT
500
300
200
100
80
60
40
30
20
10
29
28
26

API 05174

CALIFORNIA RESEARCH CORPORATION

A SUBSIDIARY OF
STANDARD OIL COMPANY OF CALIFORNIA

200 BUSH STREET
SAN FRANCISCO 4, CALIFORNIA

November 30, 1951

FILE 084.171

Dr. M. N. Newquist
The Texas Company
135 East 42nd Street
New York 17, New York

Dear Dr. Newquist:

Because of absence from my office, Dave Stroop's letter of November 16, 1951, has just come to my attention, in which he informs me that I am appointed to serve as a member of your API Research Project Advisory Committee on carcinogenicity. I shall be pleased to accept this appointment and shall endeavor to attend all future meetings and to take an active part in the work of the Committee.

I regret that previous commitments prevented my attending the first meeting of the Committee in Cincinnati on November 26. However, I assume that minutes of it will be circulated and that they will serve to bring me up to date. I look forward with great interest to attending the next meeting.

Very truly yours,

Original signed
R. C. M...

R. C. MITHOFF

RCM:LK

cc: Mr. D. V. Stroop
Dr. L. E. Curtis

API 05175

MC – Members + Associates of Medical Advisory Committee
(WITHOUT LETTER BALLOT)

12-4-51

Members and Associates
Subcommittee on Carcinogenicity

Gentlemen:

I am enclosing a copy of the minutes of the meeting of the Research Project Advisory Committee which was held at Kettering Laboratory, Cincinnati, Ohio, November 26, 1951.

Will you kindly indicate your approval or disapproval of the actions and decisions of the R.P.A. Committee on the enclosed letter ballot and return it to me. Negative votes should be accompanied by an explanation.

I will also appreciate receiving any comments and suggestions you may have concerning the research project at Kettering Laboratory.

Very truly yours,

M. N. Newquist, M.D., Chairman,
Subcommittee on Carcinogenicity

MNN:GH
Enc.

API 05176

LETTER BALLOT
of the
Subcommittee on Carcinogenicity,
Medical Advisory Committee, American Petroleum Institute

(Please mark and return to
Dr M N Newquist Chairman - S C on C ---
% The Texas Company
135 East 42nd St New York 17 N.Y.)

Shall the actions and decisions of the Research project Advisory Committee as shown in the minutes of the November 26, 1951 meeting at Kettering Laboratory, Cincinnati, Ohio, be approved by the Subcommittee:

Yes _____

No* _____

Not voting _____

*It is requested that any negative vote be accompanied by an explanation.

NAME _____

COMPANY

~~Signature~~ _____

Date _____

November 29, 1951

Dr. M. H. Newquist
The Texas Company
135 East 42nd Street
New York 17, New York

Dear Doctor Newquist:

Pursuant to your suggestion there is enclosed revised rough draft of the minutes of the first meeting of Research Project MC-1 Advisory Committee.

Your approval and corrections will be appreciated.

Very truly yours,

DVB:c
Enclosure

~~ROUGH DRAFT~~

Report on First Meeting

Research Project MC-1 Advisory Committee

November 26, 1951
Kettering Laboratory
Cincinnati, Ohio

MEMBERS PRESENT

M. N. Newquist - Chairman

E. W. Adams
L. C. Beard, Jr.
Kieffer Davis
R. E. Eckardt
T. M. Frank
R. M. Landon
E. K. Linder (Rep. by R. D. Bent)
K. G. Mackenzie
R. M. Shepardson

MEMBERS ABSENT AND NOT REPRESENTED

C. H. Hine
R. C. Mithoff

OTHERS PRESENT

F. F. Heyroth - Kettering Laboratory
A. W. Horton - Kettering Laboratory
Robert A. Kehoe - Kettering Laboratory
John J. Phair - Kettering Laboratory
David V. Stroop - American Petroleum Institute

.....

I

PROGRAM OF PROJECT MC-1

In opening the meeting the chairman outlined the aims of the Medical Advisory Committee and stated that the Research Project Advisory Committee had been appointed to afford a closer bond of understanding between committee members and research workers.

Those present were handed copies of a "Memorandum from Kettering Laboratory on Further Prosecution of API Research Project MC-1," dated November 26, 1951, which was discussed and acted upon item by item as follows:

API 05179

"A. Process Samples for Animal Tests

1. "Cracked residua from thermal cracking of virgin gas oils (samples to be collected)."

Two samples of residua from thermal cracking operations at Everett and Aruba refineries were offered by R. M. Shepardson as products of thermal cracking operations which have been used without significant change for many years.

ACTION The advisory committee voted to accept the offer of the two samples.

2. "Sidestreams and residua from other cracking processes to be tested on a limited basis to improve analytical methods of estimating potency and further to test the validity of these methods (these samples already collected, analyzed spectrophotometrically, and held in reserve in the laboratories of twenty-one of the participating companies)."

In response to a question, it was explained that these samples were not fuel oil; they comprised a limited number of existing samples requiring biological tests to round out data needed in the development of the analytical tool.

ACTION The recommendation was accepted.

3. "Untreated lube stocks from straight run distillation now being screened by analytical methods. Samples to be selected for animal testing on the basis of a comparison of their physical properties (including absorption spectra) with those of virgin distillates already tested."

ACTION In the understanding that these samples comprised those received from the British Medical Research Council, the committee voted for a prompt initiation of animal and analytical tests on the Oklahoma Bright Stock and Kuwait and Venezuela crude oils.

4. "Scottish shale oil and fractions thereof. To gain further analogies between potencies to mice and potential hazards to exposed humans, two or three fractions of shale oil comparable to those employed as spindle lubricants in the British cotton industry to be tested. (Samples already collected and held at Kettering Laboratory.)"

ACTION Because of its value as a historical tie-in, the committee accepted this recommendation.

'B. Reference Standards

"For control purposes and improvement of biological methods it is contemplated that tests on known concentrations of standard carcinogens in standard solvents will be carried out with about 9 per cent of the animals received."

Discussion of this phase of work pointed up its growing importance as a fundamental tool needed by independent investigators in seeking comparable and reproducible results.

This shift in relative importance towards fundamental factors, such as solvents, dosage, and "co-carcinogens" was emphasized by a number of members.

ACTION The committee accepted Doctor Kehoe's offer to submit, within 60 days, a revision of this item to include all known factors and corrections of significant importance to the establishment of standardized procedures.

"C. Analytical Techniques for Estimating Carcinogenic Potencies of Petroleum Products

"Chemical research will continue on the two main approaches to this goal, the empirical and the fundamental. Animal testing of fractions which can furnish useful information for this purpose will, as in the past, be given priority over tests on process samples. At the same time, it is recognized that an analytical tool has very limited significance when based on an inadequate number of biological tests of samples of materials to which it is to be applied.

"Tests on non-carcinogenic fractions of various oils will be conducted to determine the effects of variations in the composition of these fractions upon the total effective potency of the oils. It is obvious that if fractions which do not contain polycyclic carcinogens are markedly affecting the rate of induction of tumors in the test animals, then any tool based purely on the concentration of polycyclics will be seriously limited in general applicability."

Members discussed the differing criteria used by investigators at New York University and Kettering Laboratory and pointed out the desirability for a full exchange of data in order to expedite the completion of the best possible analytical tool.

ACTION The committee voted to request these investigators to exchange all data of value incidental to the prompt development of the best possible analytical tool or tools.

"D. Epidemiological Studies

"Efforts to expedite the collection of case records and other pertinent information on an industry-wide basis will be continued. At the present rate of reporting, there

API 05182

should be sufficient accumulation of information by the time of the spring meeting in 1952 to permit a preliminary tabulation of the data."

Doctor Phair made a brief but complete outline of the program of epidemiological studies.

ACTION The committee accepted Doctor Phair's report and program (see Kettering interim reports for past 18 months for program details).

"E. Experimental Study of Efficacy of Various Cleansing Agents and Skin Creams

"As soon as the current tests which employ rinsing with white oil and washing with detergent solution have been completed, new experiments will be started to compare hydrocarbon solvents, such as technical white oil, with the viscous medicinal white oil currently employed as a rinsing material.

"Further tests with other skin creams will be designed on the basis of the results of the current tests with 'Verex'."

ACTION The committee offered no objections to the proposal except to suggest that proprietary cleansing agents and skin creams should not be included in tests unless complete formula information is available, and that in no case should trade names be used in reporting results.

"F. Dilution of Carcinogenic Oils

"Sixteen of the participating companies have already started or completed collection of representative production blends containing carcinogenic streams from catalytic cracking or recycle coking, together with data on the composition of these blends. The majority of the members

of the committee have evidenced their desire for an analytical tool applicable to these complex mixtures. Since it is obvious that no such tool could be developed without knowing the biological potency of at least a few of the blends, a selected group of these materials, on which detailed information is available, should be subjected to animal testing."

Members of the committee pointed out the endless complexities of mixtures occurring in refinery operations and the futility of testing two or six or twelve of the hundreds and even thousands of mixtures which would be produced in refineries during the progress of such tests.

ACTION The committee voted against the collection of these production blends in favor of blending samples now at hand for which analytical and biological data are already available.

II

SYNTHESIS OF CARCINOGENS AND SOLVENTS

ACTION At the suggestion of L. C. Beard, Jr., it was agreed that synthesis of each carcinogen or solvent should be considered jointly by directors of Projects MC-1 and 42, but that the initial step in each case should be taken by Doctor A. Wesley Horton by letter addressed to Doctor Harry Sutherland, Chairman, Project 42 Advisory Committee, c/o Shell Oil Company, P.O. Box 1531, Modesto, California, with carbon copies to Doctor L. C. Beard, Jr., and Doctor Robert W. Schiessler, Director, API Project 42, The Pennsylvania State College, State College, Pennsylvania.

III

LIMITED APPLICATION TESTS ON "HIGH-POTENCY" OILS

Discussion of this subject developed information of work already done independently by two investigators.

ACTION It was a consensus that the results of work done should be correlated and that additional work should be done if needed to supplement the correlation.

IV.

PAPILLOMAS VS. MALIGNANCIES IN REPORTING POTENCIES

ACTION There was a consensus that the supplying of complete data sheets was the only factual answer to this difficulty; also it was agreed that microscopy should be used to prove malignancies.

V

NEXT MEETING

Consideration was given to the time and place of the second meeting of the advisory committee.

ACTION The committee agreed that the second meeting should be held at Kettering Laboratory sometime in February or early March, but left the exact date to be selected by the chairman at a time when there would be no conflict with the Washington meeting of ASTM Committee D-2 or other important industry meetings.

VI

ADJOURNMENT

There being no further business the meeting was adjourned.

Approved:

M. H. Newquist, M.D.
Chairman

D. V. Stroop
Acting Secretary

11-29-51
rd

December 7, 1951

Dr. B. B. Reeve, Chairman
Medical Advisory Committee
c/o Standard Oil Company (Indiana)
910 South Michigan Avenue
Chicago 80, Illinois

Dear Dr. Reeve:

I have received copies of the letters from Dr. Fourcher and Dr. Wade to you concerning the number and representation of membership on the Research Project Advisory Committee.

In the discussion at the Medical Advisory Committee Meeting in Chicago on November 3, 1951, mention was made as to the size of the committee and its representation. No action, however, was taken by the committee on these points. I made a statement in the meeting that I would take such matters under advisement, but that we must also consider interest and knowledge of the subject or of some pertinent phase of the subject as qualifications for appointment to the committee.

Inasmuch as the Medical Advisory Committee passed the buck by referring to the R.P.A. Committee the responsibility of working out the research program on carcinogenicity for the next year with representatives of the Kettering Laboratory, it became apparent that the committee membership must be large enough to insure a working quorum present at its meetings (3 members did not attend the first meeting), and that it must have adequate representation of qualified persons in order to resolve the various problems at hand. In other words, the criterion is the importance of the job to be done and not numbers or from where.

The first meeting of the R.P.A. Committee at the Kettering Laboratory on November 26, 1951, seemed to substantiate the above thinking. At this meeting various opinions were presented and reconciled in a congenial atmosphere, objectives were more adequately defined and suggestions as to methodology were made, all of which will tend to expedite the work and accomplish the objectives at less cost.

As soon as the more important problems with respect to the research program are resolved, which should be in the reasonably near future, it would seem that the membership of the committee could be materially reduced in number. In principle I think that we are

all in general agreement, but the main thing is to get the job done well and as quickly as possible.

Very truly yours,

M. N. NEWQUIST, M.D.
MEDICAL DIRECTOR

M. N. NEWQUIST, M. D.

MNN:PMS

cc: Dr. Kenneth A. Fourcher - Standard Oil Co. (NJ)
Dr. Leo J. Wade - Esso Standard Oil Co.
Mr. D. V. Streep - API

November 29, 1951

K. R. Fourcher, M.D.
Standard Oil Co. (New Jersey)
30 Rockefeller Plaza
New York 20, N. Y.

Dear Dr. Fourcher:

This will acknowledge your letter of November 26, 1951 pertaining to the Research Project Advisory Committee of the API. I have already received a similar letter from Dr. Wade in regard to this matter. I am very sorry this controversial affair developed.

The selection of this committee was left to Dr. Newquist as it was felt he would be a good judge as to members who would be of value to him in this matter. As Dr. Newquist has your letter and Dr. Wade's letter, he is aware of your feelings. I have written Dr. Newquist asking for his explanation concerning the appointment of this committee but as yet have not received a reply. I, personally, had nothing to do with the appointment of this committee. As stated before, it was left to Dr. Newquist to choose the members. The only two companies I see which have two representatives are your Research Department, including Dr. Eckardt and Mr. Shepardson, and the Texas Company, including Mr. Mackenzie and Dr. Newquist. Therefore, the objection to more than one representative involves Standard Oil (New Jersey) and the Texas Company. I would think it would be very easy for these two companies to correct any objectionable duplicate representation. There is a possibility that Dr. Newquist felt that it might be difficult to get all eight members together at the Kettering Laboratories at one time for their consultations and added more than eight to get the proper representation.

I saw Dr. Adams, my associate, yesterday who informed me that they had a very constructive meeting with the Kettering Laboratories on November 26 and he felt the committee present was working very efficiently. However, it was my understanding that all of the members of this committee were not present.

As soon as I hear from Dr. Newquist, I shall be glad to contact you further. It may be possible that Dr. Newquist will contact you and Dr. Wade direct in regard to this matter. I am sure there was nothing intentional on the part of Dr. Newquist in the appointment of this committee.

Yours very truly,

[signature] M.D.
Medical Director

BBR:S
CC: Mr. D. V. Stroop

API 05188

STANDARD OIL COMPANY

(INCORPORATED IN NEW JERSEY)

30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

ROBERT COLLIER PAGE, M. D.
GENERAL MEDICAL DIRECTOR
KENNETH R. FOURCHER, M. D.
ASSOCIATE MEDICAL DIRECTOR
THOMAS C. KIENZLE, M. D.
RALPH F. SCHNEIDER, M. D.
ASSISTANT MEDICAL DIRECTORS
DELAVAN V. HOLMAN, M. D.
INTERNIST

NORBERT J. ROBERTS, M. D.
JOHN J. THORPE, M. D.
HARRY F. COLFER, M. D.
PHYSICIANS AT LARGE
T. ARTHUR PEARSON, M. D.
CONSULTANT RADIOLOGIST
FRANK J. RUMMEL, M. D.
SARA P. WAGNER, B. S., R. N.
DIRECTOR OF NURSES

November 28, 1951
File 16.3

Dr. B. B. Reeve
Standard Oil Company (Indiana)
910 South Michigan Avenue
Chicago 80, Illinois

Dear Doctor Reeve:

Research Project Advisory Committee, API

Recently, I received the announcement that Doctor Newquist had appointed six of the doctors and six of the associate members of the Subcommittee on Carcinogenicity to serve as the Research Project Advisory Committee.

In this action, I do not think that the intent of the Medical Advisory Committee has been carried out. It specifically recommended that only four of the doctors and four of the associate members of the Subcommittee be appointed to this RPA Committee, and that no two of its members be from any one company. The arrangement, as now made, is little better than having the entire Subcommittee work on this problem. I am indeed extremely sorry that the measure voted upon by the entire Medical Advisory Committee has not been carried out as directed, and I am very much afraid that, in the establishment of this larger group, the original purpose of having a very few people work very closely with Doctor Kehoe will be nullified.

I wonder whether, after the meeting of the RPA Committee in Cincinnati to-day, it would not be advisable to redesignate the members of the RPA Committee in accordance with the Medical Advisory Committee's original recommendation?

Very truly yours,

K. R. FOURCHER, M. D.

KRF:egf

cc: Dr. M. N. Newquist
Mr. D. V. Stroop

API 05189

STANDARD OIL COMPANY

(INDIANA)

MEDICAL DEPARTMENT
BYRON B. REEVE, M. D.
MEDICAL DIRECTOR
WILSON W. BOLYARD, M. D.
ASSISTANT MEDICAL DIRECTOR

910 SOUTH MICHIGAN AVENUE

CHICAGO 80, ILL.

November 28, 1951

Mr. D. V. Stroop, Director
Department of Technical Services
American Petroleum Institute
50 West Fiftieth Street
New York 20, New York

Dear Mr. Stroop:

The kettle appears to be boiling in regard to Dr. Leo Wade, Esso Standard Oil Company.

Enclosed are copies of my letters to Dr. Wade and Dr. Newquist regarding this matter which you need not send out to other members.

Do you know what this is all about and what is your advice?

Yours very truly,

B B Reeve M.D.
Medical Director

BBR:S
encs.

November 28, 1951

M. N. Newquist, M.D.
The Texas Company
135 East 42nd Street
New York 17, N. Y.

Dear Dr. Newquist:

No doubt you have received a copy of Dr. Leo Wade's letter to me pertaining to the appointment of your advisory committee on carcinogenicity, in which he has seriously protested your appointment of more than eight members and more than one representative from participating companies.

The only two companies I see which are represented by two members are your company and the Standard Oil Development Company which is a part of Standard Oil (New Jersey).

I would appreciate your understanding and opinion in regard to this.

For some reason Dr. Wade and Dr. Fourcher are dissatisfied with some of the procedures of this organization, the background of which is not clear to me at this time.

Yours truly,

M.D.
Medical Director

BBR:S

CC: Mr. D. V. Stroop

API 05191

November 2nd, 1951

Leo Wade, M.D.
Esso Standard Oil Company
15 West 51st Street
New York 19, N. Y.

Dear Dr. Wade:

I received your protest letter of November 21, 1951 regarding the appointments of the Research Project Advisory Committee as to the number of members and companies represented.

As you know, the appointments of this committee were left to Dr. Newquist with the understanding that he would use good judgment in appointing this committee.

The only two companies I note which have two representatives are the Texas Company and your Standard Oil Development Company. I am sorry to have this controversial matter develop and am writing to Dr. Newquist for his understanding in this matter. Since it appears that your Development Company and the Texas Company are the only two involved, you should be able in some way to straighten this out between you. What are your recommendations?

Yours very truly,

M.D.
Medical Director

BER:S

CC: Mr. D. V. Stroop

ESSO STANDARD OIL COMPANY

15 WEST 51ST STREET. NEW YORK 19. N. Y.

CLYDE M. BERRY, PH. D
INDUSTRIAL HYGIENIST

[illegible] M.D. DIRECTOR
[illegible] M.D.
[illegible] M.D.
[illegible] M.D.
[illegible] M.D.
PHYSICIANS

November 21, 1951

Dr. B. B. Reeve
Standard Oil Company (Indiana)
910 South Michigan Avenue
Chicago 80, Illinois

Dear Dr. Reeve:

As a member of the Medical Advisory Committee of the A. P. I., I wish to register a serious protest. Other members of the Committee as well as myself were led to believe that the Research Project Advisory Committee was to consist of not more than eight members. No company was to be represented by more than one member. The Committee appointed is in violation of both these agreements. It fails to accomplish the end in view, namely, a small group to work intimately with Dr. Kehoe and his staff. I see little advantage of this group over the entire Subcommittee.

I realize full well that the two points mentioned were in the nature of "a gentlemen's agreement" and not recorded in the minutes. It is unfortunate that we must face the prospect of spelling out in detail our instructions to the chairman of the Subcommittee in the future.

Sincerely yours,

LW:HH

LEO WADE, M. D.

cc Dr. M. M. Newquist
Mr. D. V. Streep

AMERICAN PETROLEUM INSTITUTE
50 WEST 50TH STREET
NEW YORK 20, N. Y.

December 10, 1951

Members and Associates
Subcommittee on Carcinogenicity

Gentlemen:

I am enclosing a copy of the minutes of the meeting of the Research Project Advisory Committee which was held at Kettering Laboratory, Cincinnati, Ohio, November 26, 1951.

Will you kindly indicate your approval or disapproval of the actions and decisions of the R.P.A. Committee on the enclosed letter ballot and return it to me. Negative votes should be accompanied by an explanation.

I will also appreciate receiving any comments and suggestions you may have concerning the research project at Kettering Laboratory.

Very truly yours,

M. N. Newquist

M. N. Newquist, M.D.
Chairman, Subcommittee
on Carcinogenicity

MNN:GH
Enclosure

mc: Members and Associates
Medical Advisory Committee
(WITHOUT LETTER BALLOT)

LETTER BALLOT

of the
Subcommittee on Carcinogenicity
Medical Advisory Committee
American Petroleum Institute

.....

PLEASE MARK AND RETURN TO:
Dr. M. N. Newquist, Chairman
Subcommittee on Carcinogenicity
c/o The Texas Company
135 East 42nd Street
New York 17, New York

.....

Shall the actions and decisions of the Research Project Advisory Committee, as shown in the minutes of the November 26, 1951 meeting at Kettering Laboratory, Cincinnati, Ohio, be approved by the Subcommittee:

Yes _____

No* _____

Not voting _____

(* It is requested that any negative vote be accompanied by an explanation.)

NAME_____

COMPANY_____

DATE_____

LETTER BALLOT

of the
Subcommittee on Carcinogenicity
Medical Advisory Committee
American Petroleum Institute

.....

PLEASE MARK AND RETURN TO:
Dr. M. N. Newquist, Chairman
Subcommittee on Carcinogenicity
c/o The Texas Company
135 East 42nd Street
New York 17, New York

.....

Shall the actions and decisions of the Research Project Advisory Committee, as shown in the minutes of the November 26, 1951 meeting at Kettering Laboratory, Cincinnati, Ohio, be approved by the Subcommittee:

Yes _____

No* _____

Not voting _____

(* It is requested that any negative vote be accompanied by an explanation.)

NAME_____

COMPANY_____

DATE_____

REPORT ON FIRST MEETING

RESEARCH PROJECT MC-1 ADVISORY COMMITTEE

November 26, 1951
Kettering Laboratory
Cincinnati, Ohio

MEMBERS PRESENT OR REPRESENTED

M. N. Newquist - Chairman

E. W. Adams
L. C. Beard, Jr.
Kieffer Davis
R. E. Eckardt
T. M. Frank
R. M. Landon
E. K. Linder
(Rep. by R. D. Bent)
K. G. Mackenzie
R. M. Shepardson

MEMBERS ABSENT AND NOT REPRESENTED

C. H. Hine
R. C. Mithoff

OTHERS PRESENT

F. F. Heyroth - Kettering Laboratory
A. W. Horton - Kettering Laboratory
Robert A. Kehoe - Kettering Laboratory
John J. Phair - Kettering Laboratory
David V. Stroop - American Petroleum Institute

.....

I

PROGRAM OF PROJECT MC-1

In opening the meeting the chairman outlined the aims of the Medical Advisory Committee, and stated that the Research Project Advisory Committee had been appointed to afford a closer bond of understanding between committee members and research workers.

Those present were handed copies of a "Memorandum from Kettering Laboratory on Further Prosecution of API Research Project MC-1," dated November 26, 1951, which was discussed and acted upon item by item as follows:

"A. Process Samples for Animal Tests

"1. Cracked residua from thermal cracking of virgin gas oils (samples to be collected)."

Two samples of residua from thermal cracking operations at Everett and Aruba refineries were offered by R. M. Shepardson as products of thermal cracking operations which have been used without significant change for many years.

ACTION The advisory committee voted to accept the offer of the two samples.

"2. Sidestreams and residua from other cracking processes to be tested on a limited basis to improve analytical methods of estimating potency and further to test the validity of these methods (these samples already collected, analyzed spectrophotometrically, and held in reserve in the laboratories of twenty-one of the participating companies)."

In response to a question, it was explained that these samples were not fuel oil; they comprised a limited number of existing samples requiring biological tests to round out data needed in the development of the analytical tool.

ACTION The recommendation was accepted.

"3. Untreated lube stocks from straight run distillation now being screened by analytical methods. Samples to be selected for animal testing on the basis of a comparison of their physical properties (including absorption spectra) with those of virgin distillates already tested."

ACTION In the understanding that these samples comprised those received from the British Medical Research Council, the committee voted for a prompt initiation of animal and analytical tests on the Oklahoma Bright Stock and Kuwait and Venezuela crude oils.

"4. Scottish shale oil and fractions thereof. To gain further analogies between potencies to mice and potential hazards to exposed humans, two or three fractions of shale oil comparable to those employed as spindle lubricants in the British cotton industry to be tested. (Samples already collected and held at Kettering Laboratory.)"

ACTION Because of its value as a historical tie-in, the committee accepted this recommendation.

"B. Reference Standards

"For control purposes and improvement of biological methods it is contemplated that tests on known concentrations of standard carcinogens in standard solvents will be carried out with about 9 per cent of the animals received."

Discussion of this phase of work pointed up its growing importance as a fundamental tool needed by independent investigators in seeking comparable and reproducible results.

This shift in relative importance towards fundamental factors, such as solvents, dosage, and "co-carcinogens" was emphasized by a number of members.

ACTION The committee accepted Doctor Kehoe's offer to submit, within 60 days, a revision of this item to include all known factors and corrections of significant importance to the establishment of standardized procedures.

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"Chemical research will continue on the two main approaches to this goal, the empirical and the fundamental. Animal testing of fractions which can furnish useful information for this purpose will, as in the past, be given priority over tests on process samples. At the same time, it is recognized that an analytical tool has very limited significance when based on an inadequate number of biological tests of samples of materials to which it is to be applied.

"Tests on non-carcinogenic fractions of various oils will be conducted to determine the effects of variations in the composition of these fractions upon the total effective potency of the oils. It is obvious that if fractions which do not contain polycyclic carcinogens are markedly affecting the rate of induction of tumors in the test animals, then any tool based purely on the concentration of polycyclics will be seriously limited in general applicability."

Members discussed the differing criteria used by investigators at New York University and Kettering Laboratory and pointed out the desirability for a full exchange of data in order to expedite the completion of the best possible analytical tool.

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"Efforts to expedite the collection of case records and other pertinent information on an industry-wide basis will be continued. At the present rate of reporting, there should be sufficient accumulation of information by the time of the spring meeting in 1952 to permit a preliminary tabulation of the data."

Doctor Phair made a brief but complete outline of the program of epidemiological studies.

ACTION The committee accepted Doctor Phair's report and program (see Kettering interim reports for past 18 months for program details).

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"As soon as the current tests which employ rinsing with white oil and washing with detergent solution have been completed, new experiments will be started to compare hydrocarbon solvents, such as technical white oil, with the viscous medicinal white oil currently employed as a rinsing material.

"Further tests with other skin creams will be designed on the basis of the results of the current tests with Verex."

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"Sixteen of the participating companies have already started or completed collection of representative production blends containing carcinogenic streams from catalytic cracking or recycle coking, together with data on the composition of these blends. The majority of the members of the committee have evidenced their desire for an analytical tool applicable to these complex mixtures. Since it is obvious that no such tool could be developed without knowing the biological potency of at least a few of the blends, a selected group of these materials, on which detailed information is available, should be subjected to animal testing."

Members of the committee pointed out the endless complexities of mixtures occurring in refinery operations and the futility of testing two or six or twelve of the hundreds and even thousands of mixtures which would be produced in refineries during the progress of such tests.

ACTION The committee voted against the collection of these production blends in favor of blending samples now at hand for which analytical and biological data are already available.

II

SYNTHESIS OF CARCINOGENS AND SOLVENTS

ACTION At the suggestion of L. C. Beard, Jr., it was agreed that synthesis of each carcinogen or solvent should be considered jointly by directors of Projects MC-1 and 42, but that the initial step in each case should be taken by Doctor A. Wesley Horton by letter addressed to Doctor Harry Sutherland, Chairman,

Project 42 Advisory Committee, c/o Shell Oil Company. P.O Box 1531, Modesto, California, with carbon copies to Doctor L. C. Beard, Jr., and Doctor Robert W. Schiessler, Director, API Project 42, The Pennsylvania State College, State College, Pennsylvania.

III

LIMITED APPLICATION TESTS ON "HIGH-POTENCY" OILS

Discussion of this subject developed information of work already done independently by two investigators.

ACTION It was a consensus that the results of work done should be correlated and that additional work should be done if needed to supplement the correlation.

IV

PAPILLOMAS VS. MALIGNANCIES IN REPORTING POTENCIES

ACTION There was a consensus that the supplying of complete data sheets was the only factual answer to this difficulty; also it was agreed that microscopy should be used to prove malignancies.

V

NEXT MEETING

Consideration was given to the time and place of the second meeting of the advisory committee.

ACTION The committee agreed that the second meeting should be held at Kettering Laboratory sometime in February or early March, but left the exact date to be selected by the chairman at a time when there would be no conflict with the Washington meeting of ASTM Committee D-2, or other important industry meetings.

VI

ADJOURNMENT

There being no further business the meeting was adjourned.

Approved:

M. N. Newquist, M.D.
Chairman

D. V. Stroop
Acting Secretary

12-10-51

Copy from D. V. Stroop for information of M. N. Newquist, M.D. 12-11-51

UNIVERSITY OF CINCINNATI
Department of Preventive Medicine and Industrial Health

The Kettering Laboratory
College of Medicine - Eden Avenue
Cincinnati 19, Ohio

Cable Address: Ketlab, Cincinnati
Telephone: Capital 1414

December 7, 1951

Mr. D. V. Stroop
Department of Technical Service
American Petroleum Institute
50 West 50th Street
New York 20, New York

Dear Mr. Stroop:

For your information I am sending you herewith a statement of expenditures made on behalf of American Petroleum Institute during the third quarter of 1951. I believe that the statement is self-explanatory, but if you have any questions of comments, Doctor Kehoe would appreciate your bringing them to his attention.

Very truly yours,

/s/ E. R. Fortlage

E. R. Fortlage, Secretary to
Dr. Kehoe

erf
Enc.

API 05202

Copy from D. V. Troop for Information of M. N. Nequist, M. D.

UNIVERSITY OF CINCINNATI
KETTERING LABORATORY
ACCOUNT OF AMERICAN PETROLEUM INSTITUTE

For the Third Quarter of 1951

[illegible] (Based on Proportion of Actually Spent on Project)

Robert A. Kehoe	- Supervision	$ 18.00	
Francis Heyroth	- General Technical Supervision	22.27	
John Phair	-	1375.02	
Wesley Horton	- Coordination of Exper. Work	1981.45	
Russell Tye	- Technical Assistance	1125.00	
Ruth Pierle	- " "	1200.00	
Dorothy Templeton	- " "	526.16	
Marian Duvall	- " "	378.92	
Eldon Parkinson	- " "	400.00	
Ralph Denham	- " "	230.00	
Carrie Sivley	- " "	373.26	
Earl Kreutle	- " "	274.50	
Waldo Younker	- " "	162.35	
Edmund Pelta	- " "	14.00	
Frank Cleveland	- Pathological Assistance	99.00	
Frank Dutra	- " "	95.56	
Raymond Suskind	- Dermatological Assistance	22.23	
			8297.72

[illegible]LLANEOUS EXPENSE

Traveling Expense.	990.31
Purchase of Animals.	397.20
Laboratory Supplies.	422.67
Proportion of Secretarial, Library, Janitors, Wash Boys, Draftsman, Shipping Clerks, Animal Caretakers, Histopathological Preparation, etc.	8345.39
Proportion of Heat, Gas Electricity, Steam, Telephone, Postage, Pensions, Annuities, Maintenance, Animal Food and Supplies, etc.	6135.34
TOTAL	$24,588.63

Balance Available for Further Work at End of 2nd Quarter 1951.	$ 18,307.58
Receipts - July 1951.	50,000.00
Total Sum Available	68,307.58
Expenditures - 3rd Quarter 1951	24,588.63
Balance Available for Further Work at End of 3rd Quarter 1951.	$ 43,718.95

API 05203

Copy from D.V.S. for information of M.N. Newquist MD 12-11-51

UNIVERSITY OF CINCINNATI
DEPARTMENT OF PREVENTIVE MEDICINE AND INDUSTRIAL HEALTH

...TTERING LABORATORY
...GE OF MEDICINE—EDEN AVENUE
...NATI 19, OHIO

CABLE ADDRESS: KETLAB, CINCINNATI
TELEPHONE: CAPITOL 1414

December 7, 1951

Mr. D. V. Stroop, Director
Department of Technical Service
American Petroleum Institute
50 West 50th Street
New York City 20

Dear Mr. Stroop:

For your information I am sending you herewith a statement of expenditures made on behalf of American Petroleum Institute during the third quarter of 1951. I believe that the statement is self-explanatory, but if you have any questions of comments, Doctor Kehoe would appreciate your bringing them to his attention.

Very truly yours,

E.R. Fortlage

E. R. Fortlage, Secretary to
Dr. Kehoe

ef

Enc.

API 05204

UNIVERSITY OF CINCINNATI
KETTERING LABORATORY
ACCOUNT OF AMERICAN PETROLEUM INSTITUTE

For the Third Quarter of 1951

SALARIES (Based on Proportion of Time Actually Spent on Project)

Robert A. Kehoe	- Supervision	18.00
Francis Heyroth	- General Technical Supervision	22.27
John Phair		1375.02
Wesley Horton	- Coordination of Exper. Work	1981.45
Russell Tye	- Technical Assistance	1125.00
Ruth Pierle	- " "	1200.00
Dorothy Templeton	- " "	526.16
Marian Duvall	- " "	378.92
Eldon Parkinson	- " "	400.00
Ralph Denham	- " "	230.00
Carrie Sivley	- " "	373.26
Karl Krautle	- " "	274.50
Weldo Younker	- " "	162.35
Edmund Pelta	- " "	14.00
Frank Cleveland	- Pathological Assistance	99.00
Frank Dutra	- " "	95.56
Raymond Suskind	- Dermatological Assistance	22.23
		8297.72

MISCELLANEOUS EXPENSE

Traveling Expense	990.31
Purchase of Animals	397.20
Laboratory Supplies	422.67
Proportion of Secretarial, Library, Janitors, Wash Boys, Draftsman, Shipping Clerks, Animal Caretakers, Histopathological Preparation etc	8345.39
Proportion of Heat, Gas, Electricity, Steam, Telephone, Postage, Pensions, Annuities, Maintenance, Animal Food and Supplies etc	6135.34
TOTAL	24,588.63

Balance Available for Further Work at End of 2nd Quarter 1951	$18,307.58	
Receipts - July 1951	50,000.00	
Total Sum Available	68,307.58	
Expenditures - 3rd Quarter 1951	24,588.63	
Balance Available for Further Work at End of 3rd Quarter 1951	43,718.95	

API 05205

December 27, 1951

Dr. Robert A. Kehoe
University of Cincinnati
The Kettering Laboratory
College of Medicine - Eden Avenue
Cincinnati 19, Ohio

Dear Doctor Kehoe:

Pursuant to our continuation contract with the University of Cincinnati, covering the work on investigation of the toxicity and mode of action of certain petroleum products, we enclose the Institute's check in the amount of $31,692.42, which represents the difference between $50,000 and the unexpended balance of $18,307.58 as reported at the end of the second quarter, June 30, 1951.

This check completes the payments due under the present contract for the year ending June 30, 1952.

Very truly yours,

DVS:e
Enclosure
cc: Dr. E. K. Linder
Dr. M. H. Newquist
Mr. Lacey Walker

Note to Mr. Walker:

This expenditure is to be charged against the Medical Research Fund.

DVS

UNIVERSITY OF CINCINNATI
DEPARTMENT OF PREVENTIVE MEDICINE AND INDUSTRIAL HEALTH

2C/F.C

THE KETTERING LABORATORY
COLLEGE OF MEDICINE—EDEN AVENUE
CINCINNATI 19, OHIO

CABLE ADDRESS: KETLAB, CINCINNATI
TELEPHONE: CAPITOL 1414

December 29, 1951

Mr. D. V. Stroop, Director
Department of Technical Services
American Petroleum Institute
50 West 50th Street
New York City 20

Dear Mr. Stroop:

I herewith acknowledge with thanks receipt of American Petroleum Institute's check in the amount of $31,692.42, covering expenditures to be made on their behalf.

Very truly yours,

E. R. Fortlage

E. R. Fortlage, Secretary to
Dr. Kehoe

ef